PROSPECTIVE PAYMENT
ASSESSMENT COMMISSION

REPORT AND RECOMMENDATIONS TO THE SECRETARY, U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

APRIL 1, 1986

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PROSPECTIVE PAYMENT ASSESSMENT COMMISSION

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PROSPECTIVE PAYMENT ASSESSMENT COMMISSION
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April 1, 1986

Honorable Otis Bowen, M.D.
Secretary
Department of Health and Human Services
Washington, D.C. 20101

Dear Secretary Bowen:

I am pleased to transmit to you the second annual report of the Prospective Payment Assessment Commission as required by Section 1886(e)(4) of the Social Security Act as amended by Public Law 98-21. This report contains thirty-three recommendations updating the Medicare prospective payments and modifying the diagnosis-related group (DRG) classification and weighting factors.

The report also provides background on the Commission's priorities as well as an indication of its agenda for coming years.

Sincerely,

Stuart H. Altman, Ph.D.
Chairman

Enclosure

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Executive Summary

Executive Summary

In its April 1986 report, the Prospective Payment Assessment Commission (ProPAC) conveys its recommendations to the Secretary of the Department of Health and Human Services (HHS) on ways to update and improve the Medicare prospective payment system (PPS). The 33 recommendations reflect the key concerns of ProPAC's 15 commissioners. The proposed changes are necessary, in the Commission's view, to maintain access to high-quality health care, encourage hospital productivity and long-term cost-effectiveness, and facilitate innovation and appropriate technological change.

This summary highlights the major areas addressed in the recommendations.

Update Factor.—The Commission estimates that its update factor recommendation would result in a 2.8 percent increase in hospital payment per case for fiscal year 1987. That figure is derived from combining several components. These are: 1) increases for inflation in the hospital market basket (adjusted for forecast errors), scientific and technolgical advances in the hospital industry, and real case-mix changes; and 2) decreases for changes in hospital productivity, shifts in site of service, and reported changes in the case-mix index.

Sharing of Gains.—The Commission believes that hospitals, beneficiaries, and the Medicare program should share gains achieved under PPS. In this connection, the Commission urges legislative change in the formula determining Medicare beneficiaries' inpatient deductible. This change is necessary because of the inappropriate increase in the deductible caused by significant declines in the length of stay experienced since the beginning of PPS.

Capital.—The Commission recommends that beginning in fiscal year 1987 hospital capital payments be phased into PPS. The Federal portion of capital payments should be computed as a fixed percentage add-on to the standardized amounts based on a distinction between fixed and moveable capital. Such a system should be initiated in fiscal year 1987 with respect to moveable equipment. Federal payments for fixed plant and equipment, however, should replace cost reimbursement during a seven- to ten-year transition period.

Incorporating Technological Change.—The Commission recommends annual recalibration of diagnosis-related group (DRG) weights to reflect new technologies and other practice changes that affect the relative use of hospital resources among the DRGs. The Commission's recommendations on individual DRG classification and calculation of payment amounts would modify the current DRG system to incorporate costly new technologies, and respond to special problems like the high costs associated with increased use of sophisticated cardiac pacemakers.

Beneficiary Information.—Concerns and perceptions that PPS is adversely affecting the quality of care Medicare beneficiaries receive prompted the Commission's call for disseminating information to Medicare beneficiaries and providers about PPS and how it functions. Beneficiaries must understand how to utilize the Medicare appeals system to protect their right to appropriate hospital care. The Commission is deeply concerned about reports that DRG-specific average lengths of stay have been inappropriately used as maximum limits on hospital stays.

Quality of Care.—All of the Commission's recommendations regarding the update factor and DRG classifications were formulated with consideration of quality of care. The Commission is particularly concerned, however, about the role that Peer Review Organizations (PROs) play in this vital area. To the extent possible, PRO quality of care review should focus on the entire episode of care, including skilled nursing and home health care. In addition, the Commission recommends that PROs extend their review to selected outpatient surgery cases.

Adjustments to the Payment Formula.—The Commission reiterates its recommendation for prompt action on two PPS payment distribution problems. An adjustment to PPS rates should be implemented for hospitals serving a disproportionate share of low-income patients. Further-

more, the definition of hospital labor market areas should be improved, primarily by identifying additional labor markets within current definitions of urban and rural areas. The Commission is also concerned about the special problems of rural hospitals and the beneficiaries they serve.

AGENDA FOR THE FUTURE

The Commission's future analytic agenda calls for further study in three broad categories: improving the measurement of case mix, improving and updating hospital payment amounts, and assessing the effects of PPS on quality of care. Activities in these categories include the following:

- Improving the measurement of case mix:
  - —Analyses to support incorporation of new and changing technology and practice patterns into the DRG system.
  - —Examination of heterogeneity and case complexity on a DRG-specific basis, broadening the scope to all DRGs.
  - —Research on issues that cut across the measurement of case mix and payment amounts, such as outlier payment policy, and high device costs and the labor/nonlabor portion of the payment amounts.
- Improving and updating hospital payment amounts:
  - —Studies to further refine the discretionary adjustment factor (DAF), to improve the data and methods used to calculate the payment amounts, and to examine issues related to the hospital market basket.
  - —Analyses of issues related to the calculation of payment components, such as the area wage index adjustment.
  - —Evaluations of ProPAC's capital recommendations and the effects of paying for capital through PPS.
- PPS effects on quality of care:
  - —Studies using existing data to identify quality of care problems among targeted patient groups, such as the frail elderly.
  - —Research on hospital discharge planning services to assess how well hospitals link inpatient hospital care with needed postdischarge care.
  - —Assessment of methods to study the entire episode of illness in order to understand the relationship between shortened length of stay, the use of medical services at alternative sites of care, and health care outcomes.

This report appears shortly after publication of ProPAC's report to the Congress, *Medicare Prospective Payment and the American Health Care System,* which documents the impact of PPS during its first year. The two reports convey the Commission's conclusion that PPS is clearly achieving a number of its intended objectives. They also underscore the need for continued assessment of the consequences of PPS and for implementation of measures to improve the system.

REPORT ORGANIZATION

Chapter 1 discusses the Commission's role and the processes it uses to fulfill its mandate; changes in health care financing and public policy that occurred during 1985; and the commissioners' chief concerns. ProPAC's 33 recommendations for improving the prospective payment system are presented in Chapter 2 under three broad categories: improving DRG classification and case-mix measurement; improving and updating the payment amounts; and assessing the effects of PPS on care for beneficiaries. The Commission's proposed analytic agenda is outlined in Chapter 3, which describes areas and issues that ProPAC intends to study in 1987 and beyond.

The Technical Appendixes, a separate volume accompanying the report, contain both descriptive and analytical pieces developed by staff and outside experts that provided the groundwork for the Commission's recommendations.

RECOMMENDATIONS FOR FISCAL YEAR 1987

The Update Factor

Recommendation 1: Amount of the Update Factor for PPS Hospitals

For fiscal year 1987, the standardized amounts should be updated by the projected increase in the hospital market basket, adjusted by the following:

- A correction factor for substantial errors previously made in forecasting inflation for fiscal year 1986, and
- A discretionary adjustment factor of minus 0.5 percentage points composed of two allowances:
  - —A minus 1.4 percent allowance for scientific and technological advancement, productivity change, and site-of-care substitution, and
  - —A 0.9 percent allowance for real case-mix change.

In addition, the DRG weights should be adjusted to remove any increase in observed case mix occurring during fiscal year 1986.

This recommendation reflects the Commission's collective judgment of the appropriate change in the level of payment per Medicare discharge under PPS, assuming that the Commission's other concerns regarding the market basket component of the update factor, the DRG weighting factors, and the distribution of payments across PPS hospitals are also addressed. The Commission's recommendation regarding the level of capital payments would also affect per-discharge Medicare payments to hospitals.

Recommendation 2: Allowance for Scientific and Technological Advancement and Productivity Goals, and Site-of-Care Substitution

For the fiscal year 1987 payment rates, the allowance in the discretionary adjustment factor for scientific and technological advancement, productivity improvement, and substitution in the site of service from inpatient to out-of-hospital settings should be set at minus 1.4 percentage points.

Recommendation 3: Allowance for Real Case-Mix Change

Prospective payments should reflect real changes in case mix that are due to changes associated with the characteristics of patients and not changes simply due to better coding of records. The DAF allowance for real case-mix change should reflect both shifts in patients among the DRG categories, as measured by changes in the average case-mix index (DRG case-mix change), and changes in the mix of patients within DRG categories (patient complexity change). For the fiscal year 1987 payment rates, the allowance for real case-mix change should be set at 0.9 percent. This allowance represents a 0.2 percent adjustment for changes in the DRG case-mix index and a 0.7 percent adjustment for patient complexity changes.

Recommendation 4: Update Factor for Excluded Hospitals and Distinct-Part Units

For fiscal year 1987, the target rate of increase limits for the group of psychiatric, rehabilitation and long-term care hospitals and hospital distinct-part units excluded from PPS should be updated to reflect the projected increase in the hospital market basket for these hospitals (corrected for forecast errors) minus a 0.8 percentage point adjustment for productivity and scientific and technological advancement goals established for PPS hospitals.

The target rate of increase limit for children's hospitals and distinct-part units should be updated to reflect the projected increase in the hospital market basket for PPS hospitals (corrected for forecast errors) minus a 0.8 percentage point adjustment for productivity and scientific and technological advancement goals established for PPS hospitals.

Capital

Recommendation 5: Including Capital in the Prospective Payment System

Beginning in fiscal year 1987, the Secretary should initiate a transition to all-inclusive prospec-

tive prices that combine operating and capital cost components in a single prospective payment per case for hospitals.

Recommendation 6: Capital Payment Method

The Federal portion of capital payments should be computed as a fixed percentage add-on to the standardized amounts beginning in fiscal year 1987. The Secretary should immediately develop capital components to be added to the hospital market basket. When appropriate data become available, the components of PPS payments should be recomputed to reflect the addition of capital costs. The results of this recomputation should be implemented as soon as possible, but no later than fiscal year 1988.

Recommendation 7: Level of Federal Capital Payment

Capital payment should be added to the Federal portion of PPS payments for hospital accounting years beginning in fiscal year 1987 at the following levels:

- For building and fixed equipment, projected average Medicare actual capital costs per discharge for fiscal year 1985, trended forward to fiscal year 1987 by an index of construction capital costs.
- For moveable equipment, average actual Medicare capital costs per discharge for hospital accounting years beginning in fiscal year 1983, trended forward to fiscal year 1987 by an index of equipment capital costs.
- The proportion attributed to moveable equipment should be the lesser of the 1983 proportion or 40 percent.

Recommendation 8: Capital Payment Transition

The transition to Federal capital payments under PPS should begin in fiscal year 1987 in accordance with the following provisions:

- There should be no transition for moveable equipment. All payments for moveable equipment should be included as a fixed percentage add-on to the Federal standardized amounts beginning in fiscal year 1987.
- Payments for fixed plant and equipment should be phased in as a fixed percentage add-on to the Federal standardized amounts over a seven to ten year period on a straight-line basis.
- For plant and fixed equipment, hospital-specific capital payment portions should be the actual costs incurred during each year of the transition.
- During the transition, the Federal portion for plant and fixed equipment should be updated each year by an index of construction capital costs.
- The addition of capital to the Federal standardized amounts should reflect base year treatment of return on equity and interest offsets. Return on equity payments should be added to the hospital-specific portion of operating payments. Once the transition to national rates for operating payments ends, there should be no hospital-specific payment for return on equity.

Adjustments to the Payment Formula

Recommendation 9: Disproportionate Share Hospitals

An adjustment to the PPS rates for hospitals serving a disproportionate share of low-income patients should be implemented as soon as possible. This adjustment should specifically incorporate a definition and methodology in keeping with the character of the adjustments already being considered by the Congress. This adjustment should not change the total aggregate dollar amount paid to all hospitals.

Recommendation 10: Improving the Definition of Hospital Labor Market Areas

The Secretary should improve the definition of hospital labor market areas for fiscal year 1987, if possible, and no later than fiscal year 1988. For urban areas, the improved definitions should account for a greater amount of the wage variation between inner-city and suburban hospitals. For rural areas, the improved definitions should account for a greater amount of the wage variation between different rural areas within each state and

between states. The implementation of improved definitions should not result in any change in aggregate hospital payments.

Recommendation 11: Rural Hospitals

In the original PPS legislation of 1983 and the Deficit Reduction Act of 1985, the Congress required the Secretary to study and report on a number of rural hospital issues. To date, none of these studies has been submitted to the Congress. Preliminary studies by the Commission suggest that there are potential problems in the way rural hospitals are treated under PPS. To facilitate open and informed public debate of rural hospital issues, the Commission urges the Secretary to complete and publish the congressionally mandated studies as soon as possible. If the results of the Secretary's studies indicate that changes in payment policies affecting rural hospitals are warranted, appropriate modifications to current policy should be implemented as soon as possible, including legislative change, if necessary. The Commission will continue its analysis of rural hospital issues and make specific recommendations in the future if findings indicate that changes in PPS payment policy are desirable.

The Standardized Amounts

Recommendation 12: Earlier Availability of Medicare Cost Data

The Commission is pleased that the Secretary has taken steps to speed up the availability of Medicare Cost Report data from the first year of PPS. The Commission recommends that making cost data available as soon as possible be an ongoing effort, since these data are vital both to assess the relationship between PPS payments and hospital costs and to analyze the costs of individual DRGs. As part of this ongoing effort, alternative strategies for sampling hospital cost data should be considered. The necessary additional resources should be allocated for timely processing of these data.

Recommendation 13: Recalculating the Standardized Amounts

The standardized amounts used to determine hospital payments under PPS should be recalculated using cost data that reflect hospital behavior under PPS. The results of such a recalculation, with appropriate modifications, could be used in determining the update factor or in rebasing the standardized amounts.

Recalibration

Recommendation 14: Recalibrating the DRG Weights

The DRG weights should be recalibrated annually in order to reflect the use of new technologies and other practice pattern changes affecting the relative use of hospital resources among the DRGs.

Beneficiary Concerns

Recommendation 15: Beneficiary and Provider Information

The Secretary should take immediate action to provide more and better-written information about the Medicare prospective payment system to beneficiaries and providers of care. The Department should work with providers, beneficiaries, and associations of these groups to produce and disseminate this information. Associations of providers and beneficiaries should also increase their own efforts to better educate and inform their members about the Medicare prospective payment system.

Recommendation 16: Notice to Beneficiaries of Rights

Beneficiaries should be made aware of the process of reconsideration and appeal of a hospital denial of coverage for continued inpatient hospital care. Notification should be through a written notice or information bulletin. It should explain beneficiary rights in a clear, helpful, and understandable manner. In addition to a clear statement of rights, the bulletin should inform beneficiaries that they should not accept any oral communication to the effect that they must leave the hospital because their "coverage" has "run out" or because there is a limit on the number of days "allowed" by Medicare for a DRG. The bulletin should be distributed at the time of admission or as soon thereafter as is appropriate based on the

patient's clinical condition. However, additional avenues of distribution should also be developed.

Recommendation 17: PRO Episode of Care Review

The focus of PRO quality of care review should be, to the extent possible, on the entire episode of care. The PRO's review should include, in addition to the period of hospitalization, the quality of care (and outcome) related to the overall episode of illness, including, if appropriate, skilled nursing or home health care.

Recommendation 18: PRO Review of Outpatient Surgery

The Commission is concerned that efforts to shift surgical services from the inpatient to the outpatient setting could have an adverse impact on quality of care for certain Medicare beneficiaries. The PROs should be required to review and monitor the quality of care (and outcome) of outpatient surgery for selected patients and procedures. As a starting point, the PROs should be required to review outpatient surgery cases for those procedures that have been identified for preadmission review, including in particular a sample of those cases for which the PRO has denied payment on preadmission review.

Recommendation 19: Recalculating the Inpatient Hospital Deductible

The Secretary should seek legislative change to the formula for computing the inpatient hospital deductible so that the annual increase in the deductible is more consistent with the annual per-case increase in Medicare payments to hospitals. The proportion of the costs of inpatient hospital care borne by Medicare beneficiaries has inappropriately increased as a result of significant declines in length of stay experienced since the beginning of PPS. This proportion should be lowered to its calendar year 1983 level.

Patient Classification and Case Mix

Recommendation 20: Improving the Measurement of Hospital Case Mix

The Commission believes that the DRG system is currently the most appropriate of the available measures of hospital case mix for the Medicare PPS and should be retained in principle as the system upon which to base Medicare payments to hospitals. Resource use varies considerably, however, within some DRGs. Therefore, the Commission intends to continue its analysis of individual DRGs and to undertake a systematic evaluation of the entire system. The goal is to identify potential problems in DRG construction and classification and to recommend changes that will improve the homogeneity within DRGs and the equity of payments across hospitals.

Recommendation 21: Process for Maintaining and Updating ICD-9-CM

The Secretary should establish a mechanism for maintaining and updating ICD-9-CM diagnosis and procedure codes in a timely and effective manner. This process should include adequate educational support for all users.

Recommendation 22: Process for Interpretation and Assignment of Existing Codes

The Secretary should ensure that interpretation and assignment of existing ICD-9-CM diagnosis and procedure codes for payment purposes strictly adhere to coding rules and guidelines. In order to maintain the integrity and uniformity of the coding system while allowing flexibility for payment purposes, the process for interpretation and assignment of existing ICD-9-CM codes should be assigned to one authorized group.

Recommendation 23: Interim Mechanism for Coding Problems

The Secretary should establish an interim mechanism to allow early identification of new technologies, procedures, and diagnoses and more appropriate DRG assignment when ICD-9-CM codes cannot be updated in a timely manner.

DRG Classification and Weighting Factors

Recommendation 24: Adjustment of the Labor Portion of the Standardized Amounts for Some DRGs Involving Expensive Devices

The labor and nonlabor portions of the standardized amounts should be redefined for DRGs 39, 104, 105, 209, 471, and the newly defined DRGs for pacemaker implantation and replacement (Recommendations 25 and 26), implantable defibrillators (Recommendation 27), and penile prostheses (Recommendation 28). The new portions should more closely reflect the labor-related and nonlabor-related shares of costs for cases in each of these DRGs. These recalculations should be made so that total hospital payments remain unchanged.

The correct labor and nonlabor portions of the standardized amounts should be calculated from data currently being generated in the Health Care Financing Administration's (HCFA) study of the labor portion of costs by DRG. If this information proves to be incomplete, the portions should be calculated from available cost and charge data for these DRGs. The Secretary should study the need for adjustments to the labor and nonlabor portions of the standardized amounts in all DRGs.

Recommendation 25: Reclassification of Pacemaker Cases Based on Type of Device

Prior to recalibration, the DRGs involving implantation of cardiac pacemakers (currently DRGs 115 through 118) should each be restructured into two DRGs, one for cases involving dual-chamber or functionally similar pacemakers, and one for cases receiving other single-chamber pacemakers. New ICD-9-CM procedure codes should be created to distinguish between these types of cases. A mechanism should be established to evaluate the appropriateness of all implants involving dual-chamber or functionally similar pacemakers. In the initial year of this new classification, the weights for all pacemaker DRGs should be calculated using charge data from the PATBILL file and data on cost differences between pacemaker types.

Recommendation 26: Reclassification of Pacemaker Replacement Cases

Prior to recalibration, the cases involving replacement of a permanent cardiac pacemaker, except those with myocardial infarction, congestive heart failure or shock, should be reassigned to DRGs that include only pacemaker replacements.

Recommendation 27: Implantable Defibrillator

Implantable defibrillator cases should be assigned to a unique DRG. The labor and nonlabor portions of the standardized amounts should be redefined for this new DRG to reflect the labor-related and nonlabor-related shares of costs for these cases.

Recommendation 28: Penile Prostheses

Prior to recalibration, cases involving the implantation of a penile prosthesis should be removed from DRG 341 and reassigned to a unique DRG. The labor and nonlabor portions of the standardized amounts should be redefined for this new DRG to reflect the labor-related and nonlabor-related shares of costs for these cases.

Recommendation 29: Additional Payment for Magnetic Resonance Imaging

For a period of three years, Medicare should pay hospitals an additional amount (hereafter termed an add-on) for each covered magnetic resonance imaging (MRI) scan performed on an inpatient Medicare beneficiary in a PPS hospital. Under existing capital payment policy, the add-on for fiscal year 1987 should be $124 for each scan performed on beneficiaries in institutions where Medicare pays for the capital costs of an MRI scanner and $282 for each scan performed on beneficiaries in other PPS hospitals. In fiscal year 1988 and fiscal year 1989, the add-on amounts for all hospitals should be recalculated to reflect any change in the average cost of an efficiently produced scan and any changes in capital payment policy.

Recommendation 30: Extracorporeal Shock Wave Lithotripsy

Prior to recalibration, cases in which extracorporeal shock wave lithotripsy (ESWL) is the principal procedure should temporarily be removed from DRG 324 and reassigned to DRG 323. The payments and costs for all cases in this DRG should be monitored to determine the appropriateness of PPS payments for operating costs. A unique procedure code should be identified for ESWL.

Recommendation 31: Lymphomas and Leukemias

Prior to recalibration, cases currently assigned to DRGs involving lymphoma, leukemia, and other related diagnoses (DRGs 400-404) should be reclassified into one of five newly defined DRGs. The new classification should provide a unique DRG for acute leukemia cases not involving a major operative procedure, eliminate age as a criterion for DRG assignment, and modify present classification based on operative procedure, complications and comorbidity. Other ways of further improving these DRGs should continue to be explored.

Recommendation 32: Upper Extremity Procedures

Prior to recalibration, cases involving procedures of the upper extremity that are currently classified in DRGs 223, 224, 228, and 229 should be reassigned based on anatomical location and the presence of systemic collagen vascular disease or implantation of joint prostheses or complications and/or comorbidities. Nonsurgical hip fracture cases currently being assigned to DRGs 223, 224, 225, 228, and 229 should be reassigned to the appropriate medical DRG.

Data Development and Research

Recommendation 33: Maintaining a Commitment to Data Development and Research on PPS

The Secretary should continue to devote substantial resources to data development and research for monitoring and improving PPS and understanding its effects on the health care system. Studies mandated by the Congress that are already due should be completed and made public as soon as possible, and new studies that analyze more recent data should be designed and implemented as soon as possible. While ProPAC and other organizations will participate in this process, the major commitment to PPS data development and research must reside in the Department of Health and Human Services.

Chapter 1

Introduction and Commission Priorities

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Introduction and Commission Priorities

The Medicare prospective payment system (PPS) for payment of inpatient hospital services was enacted by the Social Security Amendments of 1983 (Pub. L. 98-21). In the same legislation, the Congress created the Prospective Payment Assessment Commission (ProPAC) to advise the executive and legislative branches on maintaining and updating PPS.

This report to the Secretary of the Department of Health and Human Services (HHS) contains the Commission's recommendations for updating and modifying Medicare's prospective payment system for inpatient hospital care. This chapter describes the Commission's role and responsibilities. It also summarizes major policy changes and issues in health care financing during the past year. Finally, it describes the priorities ProPAC has established to govern its functions and decision making. Chapter 2 contains the Commission's recommendations; Chapter 3 describes analyses and studies ProPAC has under way or plans for the future.

THE PROSPECTIVE PAYMENT ASSESSMENT COMMISSION: ITS ROLE, RESPONSIBILITIES, AND PROCESSES

The Congress established ProPAC as a permanent, independent commission with responsibilities related to maintaining and updating the new payment system. The 15 Commission members are appointed by the director of the Office of Technology Assessment (OTA), the Congress of the United States. Members are selected, as required by the law, to provide independent expertise in health care delivery, financing, and research. (Biographies of current Commission members appear in this report's appendix.)

Commission Role and Responsibilities

The role of the Commission is to function as a highly knowledgeable, independent panel that provides analysis of and advice on PPS to the executive and legislative branches of the Federal government. This report fulfills the Commission's two primary responsibilities mandated by Pub. L. 98-21. These are to:

- Recommend annually to the Secretary of the Department of Health and Human Services the appropriate percentage change in the Medicare payments for inpatient hospital care, called the "update factor," which is applied to the previous year's payment rates.
- Consult with and recommend to the Secretary of the Department of Health and Human Services necessary changes in diagnosis-related groups (DRGs), including advice about establishing new DRGs, modifying existing DRGs, and changing the relative weights of the DRGs.

Besides the report and recommendations submitted in April to the Secretary for consideration in rulemaking, each fall the Commission reports to the Congress its evaluations of adjustments made by the Secretary. ProPAC also reports to the Congress annually about the overall effects of PPS on American health care delivery and financing, and provides other reports and analyses to the Congress as requested.

Commission Processes

The Commission has established a subcommittee structure to facilitate its work. ProPAC holds open meetings and solicits comment and involvement from groups or people with information relevant to its responsibilities. To enhance the Commission's communications with the public, all meetings are announced in the *Federal Register*. ProPAC maintains a mailing list and schedules public comment periods at each open Commis-

sion and subcommittee meeting. Formal notice has been published in the *Federal Register* (50 Fed. Reg. 1657 [1985]) describing the process for interested parties to use in submitting information to the Commission. The Commission also has adopted a general policy statement. This statement, along with information about the subcommittee structure and Commission meeting dates, is published in this report's appendix.

The Commission requested and received, through the congressional appropriations process, a budget of $3.2 million to carry out its work in fiscal year 1985; a slight increase to approximately $3.3 million was approved for fiscal year 1986. These funds support the administrative, research, and analytic work of the Commission and an executive director and staff of no more than 25.

This report does not explain the background or operation of the prospective payment system. Rather, the Commission assumes that the reader has a general understanding of PPS. Historical perspectives on PPS and a full description of the system are found in the Commission's *Report and Recommendations to the Secretary, U.S. Department of Health and Human Services, April 1, 1985* and the report's *Technical Appendixes*. The 1985 report is available through the Government Printing Office, Superintendent of Documents.

CHANGES IN HEALTH FINANCING AND PUBLIC POLICY SINCE APRIL 1985

In the past year, the Federal policy debate has been dominated by the subject of reduction of the large national deficit. Because the Medicare program represents such a significant proportion of Federal spending (an estimated $74 billion in fiscal year 1986), the course of the debate is critical to those concerned about health financing policy, and the Commission monitored it closely. The debate culminated with the enactment in December 1985 of the Gramm-Rudman-Hollings Balanced Budget and Emergency Deficit Control Act of 1985, Pub. L. 98-177.

Congressional actions to reduce the deficit and to make other policy-related Medicare and PPS changes were similarly monitored. At the time the Commission adopted the recommendations contained in this report, 1986 Medicare PPS regulations had not been implemented due to congressionally mandated postponement.

While the Commission understands the reasons for the delay, it regrets that several major operational changes recommended by ProPAC and adopted by the Secretary in regulations were not implemented. The Commission is especially concerned about delays in the PPS recalibration process, which is designed to ensure that the system operates with DRG weights that represent the most current data base reflecting recent changes in medical practice patterns and technology.

Other policy concerns that surfaced during this time are of equal and continuing concern to the Commission. Many are addressed in ProPAC's recommendations and future priorities for work (see Chapters 2 and 3). Of particular importance to the Commission were congresssional hearings and media reports indicating that PPS might have adversely affected the quality of care that Medicare beneficiaries receive. While this subject is discussed elsewhere in this report, the Commission reiterates its commitment to continuing careful and thoughtful monitoring of this area.

There are serious methodological difficulties in measuring quality of care, and the definition of high-quality medical care may vary among individuals. The Commission believes, however, that there is a strong *perception* among some beneficiaries, physicians, and other providers that quality of care has already deteriorated under PPS or may deteriorate in the future. ProPAC will work to ensure that adequate systems are developed and implemented to monitor quality of care under PPS so that high-quality care will continue to be available to Medicare beneficiaries.

PRIORITIES AND CONCERNS OF THE PROSPECTIVE PAYMENT ASSESSMENT COMMISSION

In its April 1985 report, the Commission set forth a list of cross-cutting priorities to guide all of its analysis and decision making. These priorities have again served to form the underlying basis of ProPAC's work. They are to:

- Maintain access to high-quality health care,
- Encourage hospital productivity and long-term cost-effectiveness,
- Facilitate innovation and appropriate technological change,
- Maintain stability for providers, consumers, and other payers, and
- Base decisions on reliable, timely data and information.

Maintaining Access to High-Quality Health Care

The Commission's paramount concern with the maintenance of quality of care has been expressed. With its altered financial incentives for hospitals, PPS has created the challenge of maintaining quality health care while restraining health care costs. Hospitals that are paid a fixed amount per type of case by Medicare and other payers (who adopt PPS or use other competitive strategies like preferred provider organizations) can no longer be indifferent to the resources expended in patient care. PPS encourages a reduction of hospital inputs—tests, special procedures, supplies, equipment, personnel time, and hospital days—because hospitals can lower their costs only by controlling resources devoted to inpatient stays. Clearly, as the increase in hospital spending is slowed and cost savings are realized, the need to develop methods to detect adverse effects on quality and access is intensified.

The Commission strongly perceives its role as supporting the establishment of payment rates that will enable hospitals to continue to deliver high-quality health care. The DRG classifications and weights must be modified appropriately to reflect changes in medical practice. Similarly, the update factor must be adequate to enable hospitals to expend the resources required to maintain the appropriate amount and type of care.

As it is reflected in this report, the Commission has begun active examination of quality issues. ProPAC's work in this area will continue and will intensify in the future.

Encouraging Hospital Productivity and Long-Term Cost-Effectiveness

The Commission's concern for maintaining quality under PPS is accompanied by a parallel concern for promoting productivity and long-term cost-effectiveness of the health care system.

PPS uses the diagnosis-related groups to classify patients and define the hospital product. Hospital care is only one of many "products" that contribute to improvement in health status. Other modes of care outside of the hospital also contribute to improved health. Thus, the Commission will look beyond the hospital setting to assess and measure productivity in the context of PPS.

PPS provides incentives for improving productivity and cost-effectiveness of services. PPS also creates incentives to move services to other settings. If these services can be provided at lower cost and equal quality in other settings, such a move should be encouraged. Adjustments need to be made in hospital payments to reflect the movement of services to alternative sites, however, to avoid paying for services twice—once in the hospital DRG payment and again in payment for substitute services.

ProPAC is also concerned that the emphasis on reducing costs may deter the adoption of new services and technologies that may initially increase costs, even though in the long-run they may improve patient care, productivity, and cost-effectiveness. The Commission's work will continue to carefully assess this potential problem.

Facilitating Innovation and Appropriate Technological Change

The Commission believes the Medicare prospective payment system should have an unbiased effect on technological advancement. PPS payment levels should not inhibit the development or diffusion of new technologies and practices, nor should payment levels result in their inappropriate adoption. Instead, technology and practices should be examined in light of both long- and short-term potential effects on quality and productivity.

In reviewing the potential effects of PPS on the adoption of new technologies and practices, the Commission must consider whether payment policies and amounts are sufficient to enable hospitals to adopt them. ProPAC has addressed these concerns by examining a series of options for adjustments to PPS that could help foster the appropriate adoption of new technologies. Continued analysis of these types of problems is a high priority for the Commission. One approach is to adjust the current DRG weights to reflect changes in technology and practice patterns. In addition, the Commission has considered—and will continue to explicitly consider—scientific and technological advances as part of recommendations related to the update factor.

Maintaining Stability for Providers, Consumers, and Other Payers

The Commission believes that in an environment where health care delivery and financing are changing rapidly, its recommendations should provide as much predictability and stability as possible. During its deliberations, the Commission has identified many problems which are described throughout this report. Equitable and workable solutions are much more difficult to develop. The Commission has made only those recommendations it considers most important and amenable to well-informed decision making.

The Commission's philosophy in decision making has been to act where there is immediate need for change and to allow the new PPS to become fully mature and operational—and stable—before suggesting new approaches or significant alterations.

Decision Making Based on Reliable, Timely Data and Information

The Commission's major contribution to the maintenance and evolution of the maturing PPS is the development of recommendations grounded in quantitative data and analytic reasoning, tempered by judgment and experience. The availability and use of accurate, timely data and information, analyzed and presented without bias as a basis for decision making, are critical priorities of the Commission and its staff. The Commission will continue to strive to fulfill a role in which its approach is always to inform itself with the best and most timely information available before making recommendations.

Chapter 2

Recommendations

Chapter 2

Recommendations

The Commission's recommendations for fiscal year 1987 are the result of a process of agenda-setting, information collection, analysis, and deliberation continuing from publication of the April 1985 report to the Secretary. ProPAC selects issues for consideration to conform with its statutory mission and to contribute to an open policy debate on matters of substantial importance to beneficiaries, hospitals, and the Medicare program. The Commission's recommendations, with the analysis and reasoning that accompany them, are intended to inform the policy debate that will result in both regulatory and statutory changes in PPS.

The recommendations reflect the collective judgment of the full Commission. In some cases, however, individual commissioners did not always agree with the majority opinion.

Some recommendations, such as those that pertain to the annual update of payment rates, will be repeated in similar format every year. Others, such as the definition of hospital labor market areas, are elaborations or extensions of recommendations that ProPAC developed before this year. Finally, several issues are addressed in the Commission's recommendations for the first time.

Recommendations made previously, but not yet implemented by the Secretary, are still in effect. For example, the Commission considers it important for the Secretary to implement the 1985 recommendations concerning the hospital market basket, even though there are no additional recommendations on this topic this year.

Concern for reducing the Federal deficit and attaining a balanced budget were dominant public policy issues during the period in which these recommendations were developed. It is the role of the Congress rather than the Commission, however, to determine the extent to which Medicare payments should be reduced in light of the Federal deficit. While ProPAC did not explicitly take these budgetary concerns into account, the recommendations were developed in recognition of a very constrained fiscal environment. Furthermore, the Commission believes that budgetary pressures intensify the need to address technical issues related to the updating and distribution of payments that may bear on the quality of care furnished to Medicare beneficiaries.

The following discussion presents an overview of the Commission's 33 recommendations for fiscal year 1987, which are discussed in detail later in the chapter. Background information, statistical analyses, and alternative options are in the Technical Appendixes. The issue areas addressed by the Commission are:

- The update factor,
- Capital,
- Adjustments to the payment formula,
- Standardized amounts,
- Recalibration,
- Beneficiary concerns,
- Patient classification and case mix,
- DRG classification and weighting factors, and
- Data development and research.

OVERVIEW OF THE COMMISSION'S RECOMMENDATIONS FOR FISCAL YEAR 1987

The Update Factor

The PPS statute requires the Commission to:

> . . . take into account changes in the hospital market basket . . ., hospital productivity, technological and scientific advances, the quality of care provided in hospitals (including the quality and skill level of professional nursing required to maintain quality care), and long-term cost-effectiveness in the provision of inpatient services,

in making its recommendations on the update factor. The Commission is required to report its recommendations on the update factor to the Secretary of Health and Human Services no later than April 1 of each year, and

> . . . taking into consideration the recommendations of the Commission, the Secretary shall determine . . . the percentage change . . . which will take into account amounts necessary for the efficient and effective delivery of medically appropriate and necessary care of high quality.

Recommendation 1 reflects the Commission's overall judgment of the appropriate change in the level of payment per Medicare discharge in PPS hospitals for fiscal year 1987. The Commission believes its responsibility under the statute is to be as specific as possible in making its recommendation on the update factor. Therefore, the Commission has provided an interim estimate of the recommended update. Because several of the components of the update factor will probably change as a result of the receipt of new data before publication of the final rules for fiscal year 1987, the Commission's overall numerical recommendation is likely to be modified. The Commission will publicize its revised recommendation on the update factor during the rulemaking process.

Recommendations 2 and 3 cover the discretionary components of the update factor, which reflect considerations other than inflation in the market basket of hospital input prices. Recommendation 2 consists of a combined allowance for scientific and technological advancement and productivity goals and for changes in the site of services delivered to Medicare hospital inpatients. Recommendation 3 is an allowance for changes in patient mix and complexity that are not otherwise provided for in the PPS payment structure. Recommendation 4 satisfies the Commission's statutory obligation to recommend an update factor for hospitals and distinct-part units of hospitals excluded from PPS.

Capital

When the Commission established its agenda for the April 1986 report, it decided to examine PPS capital payment issues, expecting that the Administration's congressionally mandated capital payment report and proposal would have been published by early 1986 at the latest. In the fall of 1985, ProPAC began its work on capital by reviewing issues and developing principles for evaluation of capital payment proposals advanced by the Administration and others. In late 1985, it became evident that the Administration planned to address capital payment under PPS through regulation, without early publication of a detailed plan and analysis of options. The Commission then decided to develop recommendations related to components of a system for paying for capital under PPS without committing itself to the construction of a complete proposal for capital payment.

Early in its deliberations on capital payment, the Commission developed principles to guide the development of its recommendations. The principles regarded as most important are that the capital payment system should:

- Provide neutrality between capital and operating cost trade-offs,
- Reflect capital intensity variations across the DRGs, and
- Contribute to controlling aggregate expenditures and the level of capital growth.

These principles, which are more fully described in Technical Appendix A, are reflected in the Commission's recommendations on capital payment.

Recommendations 5 through 8 address the following capital payment components:

- The inclusion of capital in an all-inclusive price,
- The method for incorporating a capital component into PPS payments,
- The level at which capital payment is brought into PPS, and
- The transition from individual hospital capital payments to a fully implemented prospective system.

Although the capital payment recommendations do not constitute a comprehensive proposal, and other decisions are necessary before implementation, the Commission thinks its recommendations are a solid foundation for a fair and efficient system. As the discussions accompanying Recommendations 5 through 8 and in Chapter 3 indicate, the Commission will continue to address technical and policy issues concerning capital payment after publication of this report. It will also carefully review the detailed proposal that will be published by the Administration in its proposed regulations covering PPS changes for fiscal year 1987.

As of this writing, hospitals are scheduled to be paid fully national rates for operating payments beginning in fiscal year 1987. Action on the fiscal 1986 reconciliation bill or other legislation may extend the transition for operating payments, however. If a delay is enacted, the Commission will consider implications for implementation of capital payment under PPS and whether the capital payment transition should be coordinated with the operating payment transition.

The Commission's recommendations should not be construed as an endorsement of the Secretary's intention to implement capital payment under PPS by regulation rather than by seeking statutory change. The PPS statute requires the Commission to make all of its April report recommendations to the Secretary. Legislative proposals for capital payment already have been introduced in the Congress, and further proposals and modifications are likely. ProPAC will continue to share its data and analyses on this issue with legislative offices that are examining alternative capital payment strategies.

Adjustments to the Payment Formula

The Commission believes that the ways in which the PPS payment formula distributes payments to hospitals are extremely important both to Medicare beneficiaries and to interhospital equity. Payments that are adequate, on average, may be insufficient for certain types of hospitals and the beneficiaries who depend on these hospitals. Recommendations 9 through 11 address the distributional consequences of the PPS payment formula.

Recommendations 9 and 10 concern issues that were addressed in the 1985 April report. In Recommendation 9, the Commission reaffirms its conviction that hospitals serving a disproportionate share of low-income patients should receive an allowance under PPS to cover the added Medicare costs associated with their care. ProPAC supports the way the Congress approached this problem during the 1985 reconciliation process. It believes, however, that a reiteration of the recommendation is called for because no payment adjustment had been implemented by the time this report was written. In Recommendation 10, the Commission expands its 1985 recommendation on the definition of hospital labor market areas. This year, based on information it has collected, ProPAC recommends more detailed changes and will be even more specific during the rulemaking period.

In Recommendation 11, the Commission addresses issues related to the treatment of rural hospitals under PPS. The Commission is concerned that PPS may unduly place these hospitals and the beneficiaries they serve at a disadvantage. More information needs to be collected, however, before determining whether specific changes in the payment system are necessary. ProPAC's concerns include both individual components of the payment system and broad issues, such as the appropriateness of perpetuating differences in payment rates based on the historically lower costs of rural hospitals and, more generally, the appropriateness of the payment system for hospitals that tend to be small and isolated.

The Standardized Amounts

In the April 1985 report, the Commission recommended recalculating the standardized amounts with cost data reflecting hospital experience under PPS. This year, ProPAC expands its position on the standardized amounts in Recommendations 12 and 13. It is important to have cost data available as soon as possible after the end of hospital accounting years, and in Recommendation 12 the Commission urges exploration of alternative strategies to ensure early availability of such data. In Recommendation 13, the Commission again recommends recalculation of the standardized amounts with more current data. The results of the recalculation might be used to rebase the standardized amounts or to help determine the update factor for the upcoming year.

Recalibration

In Recommendation 14, the Commission states its belief that the DRG weights should be recalibrated annually. The accompanying discussion presents recommended steps in the recalibration process and further adjustment of the weights to remove observed changes in the DRG case-mix index. Even though the PPS statute requires recalibration only every four years, the benefits of annual recalibration far outweigh the associated administrative costs. Annual recalibration is especially desirable in view of evidence of rapidly changing patterns of medical practice in recent years.

Beneficiary Concerns

Chapter 1 cited quality of care under PPS as a paramount concern of the Commission since its inception. In Recommendations 15 through 18, the Commission notes ways in which quality of care can be maintained or improved under PPS. These recommendations do not cover the full range of ProPAC's concerns about quality, however. The Commission will continue to address quality in its analytic agenda and in future recommendations.

In Recommendations 15 and 16, the Commission responds to evidence of misinformation that, if not corrected, may be detrimental to Medicare beneficiaries. The Commission believes that both beneficiaries and providers need to be better informed about PPS. Existing misperceptions, particularly about length of stay limits imposed by PPS, should be dispelled immediately. In addition, beneficiaries should be systematically informed of their rights when hospitalized, including the process for appealing hospital denial of continued inpatient services.

In Recommendations 17 and 18, the Commission focuses on expanding the review activities of Peer Review Organizations (PROs) to include a broader range of quality-of-care considerations than those limited to the inpatient stay. The Commission believes that the PROs should examine the entire episode of care, which includes, but is not always limited to, an inpatient stay. Further, when PROs determine that inpatient surgical services are unnecessary, they should be required to monitor quality of care when surgery is performed on an outpatient basis. Both recommendations derive from a concern that changes in medical practice patterns partially attributable to PPS incentives may be accompanied by deterioration in quality of care if the effects of these changes are not monitored.

The Commission's concern for beneficiary welfare under PPS is not confined to quality of care issues. In Recommendation 19, the Commission notes that the inpatient hospital deductible has inappropriately risen partly because of declining length of stay under PPS. It recommends that the formula for setting the deductible be changed to be more consistent with the per-case orientation of PPS. The deductible should be reduced to the same proportion of the cost of an inpatient stay as was in effect before PPS implementation. Although this reduction would increase government outlays, it was never intended that PPS would increase the proportion of Medicare expenditures borne by beneficiaries.

Patient Classification and Case Mix

The April 1985 report identified several potential problems with the use of DRGs for prospective payment. In Recommendations 20 through 23, the Commission addresses some of these problems and states its intention to continue to explore ways to improve the DRGs for payment pur-

poses. The current DRG system should be retained for the time being, with improvements effected through incremental change. As stated in Recommendation 20, however, the Commission will systematically evaluate the DRG system. The Commission also calls for improvements, in Recommendations 21 through 23, in the International Classification of Diseases (ICD- 9-CM) coding system and the ways in which its codes are adapted for use in PPS.

DRG Classifications and Weighting Factors

The PPS statute requires the Commission to:

> . . . consult with and make recommendations to the Secretary with respect to the need for adjustments [in classifications and weighting factors] . . . based on its evaluation of scientific evidence with respect to new practices, including the use of new technologies and treatment modalities.

These adjustments refer to the system for:

> . . . classification of inpatient hospital discharges by diagnosis-related groups and a methodology for classifying specific hospital discharges within these groups.

They also relate to the assignment of:

> . . . an appropriate weighting factor [to each diagnosis-related group] which reflects the relative hospital resources used with respect to discharges classified within that group compared to discharges classified within other groups.

To the extent possible, the Commission attempts to develop generic solutions to DRG classification and weighting problems so that its decisions will apply to several DRGs. In Recommendation 24, for example, the Commission addresses the general problem of pricing DRGs that include cases using expensive devices. Changes in the treatment of several specific DRGs are recommended, and the methodology the Commission proposes might also be applied to other DRGs.

Recommendations 25 through 32 concern DRG classification, weighting, and pricing issues covering a broad range of medical technologies and procedures:

- DRG classification of pacemaker cases (Recommendations 25 and 26),
- DRG classification and weighting for cases involving implantable defibrillators and penile prostheses (Recommendations 27 and 28),
- Supplementary payment for cases involving magnetic resonance imaging (Recommendation 29), and
- DRG classification and weighting for cases involving extracorporeal shock wave lithotripsy, lymphomas and leukemias, and upper extremity procedures (Recommendations 30 through 32).

The Commission realizes that its recommendations in these areas, if implemented, would add DRGs and increase the complexity of the PPS system. Nevertheless, ProPAC is convinced that these changes would improve payment equity and reduce hospital reluctance to adopt quality-enhancing new technologies. The benefits of these changes to beneficiaries would far outweigh any corresponding increases in administrative costs.

Data Development and Research

In Recommendation 33, the Commission expresses its belief that PPS requires extensive analysis with more recent data in order to understand its consequences for hospitals and beneficiaries and to effect improvements. Most of the analysis of PPS done by HHS and the Commission has utilized data that reflect only a relatively brief period of hospital payment under PPS. The Commission therefore recommends that HHS should continue to devote substantial resources to the PPS data development and research effort. The Commission's own plans for data development and research on PPS issues are described in Chapter 3.

RECOMMENDATIONS FOR FISCAL YEAR 1987

The Update Factor

Recommendation 1: Amount of the Update Factor for PPS Hospitals

For fiscal year 1987, the standardized amounts should be updated by the projected increase in the hospital market basket, adjusted by the following:

- **A correction factor for substantial errors previously made in forecasting inflation for fiscal year 1986, and**
- **A discretionary adjustment factor of minus 0.5 percentage points composed of two allowances:**
  - **—A minus 1.4 percent allowance for scientific and technological advancement, productivity change, and site-of-care substitution, and**
  - **—A 0.9 percent allowance for real case-mix change.**

In addition, the DRG weights should be adjusted to remove any increase in observed case mix occurring during fiscal year 1986.

This recommendation reflects the Commission's collective judgment of the appropriate change in the level of payment per Medicare discharge under PPS, assuming that the Commission's other concerns regarding the market basket component of the update factor, the DRG weighting factors, and the distribution of payments across PPS hospitals are also addressed. The Commission's recommendation regarding the level of capital payments would also affect per-discharge Medicare payments to hospitals.

The Commission's current estimate is that this recommendation is likely to lead to a 2.8 percent increase in the per-case PPS payment amounts for fiscal year 1987. The estimate includes the adjustment to the DRG weights for all observed changes in the DRG case-mix index. The numerical amount of the Commission's update factor recommendation will probably change in coming months as more recent market basket forecasts and more information regarding changes in hospital case mix become available. The table below summarizes the components of the Commission's update factor recommendation.

The update factor should be applied to the standardized amounts as they exist at the end of

Estimated Increase In PPS Payment Amounts For Fiscal Year 1987 Under Commission Recommendations

Fiscal Year 1987 Market Basket Increase		4.6%[a]
Correction For Market Basket Forecast Errors In Fiscal Year 1986		−0.3[b]
Discretionary Adjustment Factor		−0.5
Scientific And Technological Advancement	0.7[c]	
Productivity	−1.5	
Site Substitution	−0.6	
Real Case-Mix Change In Fiscal Year 1986	0.9	
DRG Case-Mix Index	0.2[d]	
Within-DRG Patient Complexity	0.7[e]	
Subtotal (Update In Standardized Amounts)		3.8
Observed Change In Case-Mix Index (Adjustment Made To DRG Weights After Recalibration)		−1.0[d]
Total Change In DRG Prices		2.8[f]

[a]Data Resources Inc. (DRI) forecasts based on actuals through calendar year 1985. This estimate takes into account the Commission's April 1985 recommendation for changing the treatment of wages in the hospital market basket. The DRI forecast for the current HCFA market basket is 4.4 percent.

[b]ProPAC estimate comparing DRI forecasts based on actuals through calendar year 1984 to forecasts based on actuals through the third quarter of 1985. The estimated adjustment here excludes errors in forecasting internal price proxies, as recommended by the Commission in its April 1985 report.

[c]In addition to this allowance, the Commission's recommended add-on for Magnetic Resonance Imaging scans would increase payments to hospitals. If capital is added to PPS in fiscal year 1987 at a level lower than projected under current law, this component should be higher.

[d]For this report, the Commission has incorporated a one percent reduction in the DRG weights to account for observed changes in the DRG case-mix index during fiscal year 1986, although this figure may change as more recent data are reported. Based on historical trends, we estimate that the portion of this increase due to real changes in DRG case mix is 0.2 percentage points.

[e]Estimate based on data from the Commission on Professional and Hospital Activities through 1984. The estimate may change once 1985 data become available.

[f]As recommended by the Commission, the addition of capital would increase PPS payment amounts. Compared to the current law projection, however, ProPAC estimates that its capital recommendation would reduce capital payments by 10 percent in fiscal year 1987 and about 22 percent over the next five years.

fiscal year 1986. The final level of the 1986 amounts depends on the outcome of the budget reconciliation legislation, which would increase the amounts by 0.5 percent, and the Supreme Court ruling on the constitutionality of the Gramm-Rudman-Hollings deficit-reduction act, which lowered payments to hospitals by 1 percent beginning in March 1986. The actual increase in per-case payments to hospitals may be higher than the update factor if the overall DRG case-mix index increases during fiscal year 1987.

The Commission's recommendation for fiscal year 1986 would have increased payment amounts by 1.5 percent. ProPAC does not believe, however, that the difference between that recommendation and the actual amounts hospitals received is significant enough to take directly into account in determining the fiscal year 1987 update factor. Payments to hospitals may have been higher than reflected in the update factor due to changes in the DRG case-mix index. Moreover, analysis by the Commission and others indicates that the Federal portions of the original PPS rates were higher than intended.

Furthermore, overall the hospital industry appears to be financially healthy. Medicare's policy of continued cost reimbursement for capital has contributed to this financial health. Because of these factors, the Commission believes that applying its recommended update factor for fiscal year 1987 to the actual fiscal year 1986 amounts would be appropriate. This update would provide an aggregate payment level adequate to ensure the provision of accessible, cost-effective, quality inpatient hospital care to Medicare beneficiaries. If, however, future updates received by hospitals are substantially different from recommended levels, the Commission will consider these differences in developing its update factor recommendations.

ProPAC believes that the principle of correcting for the previous year's market basket forecast errors should be applied in determining the update factor each year. It can be argued, however, that hospitals should not have rates adjusted downward in fiscal year 1987 because there was no increase in the payment amounts in fiscal year 1986. On the other hand, the market basket forecast was used by the Secretary in developing fiscal year 1986 recommendations, although the market basket increase was offset by other factors.

In the current environment of fiscal stringency, an estimated 2.8 percent increase in PPS payment amounts for fiscal year 1987 may seem unduly high. Hospitals received no increase for the first half of fiscal year 1986, and may receive a net reduction for the second half of the year if the Gramm-Rudman-Hollings deficit-reduction act is upheld. The President's proposed budget for fiscal year 1987 estimates a 2.0 percent increase in PPS payment rates. The Commission's recommended increase is very stringent compared to historical trends in Medicare payments to hospitals, however. Between 1972 and 1983, these payments averaged about 3 percentage points *above* inflation, whereas the Commission estimates its recommendation for fiscal year 1987 to be 1.5 percentage points *below* inflation.

In its April 1985 report, the Commission made a number of recommendations for change in the hospital market basket. It is pleased that the Health Care Financing Administration has these recommendations under study, and hopes that appropriate changes are made for the fiscal year 1987 update factor. In particular, the Commission believes that wages should be treated differently in the market basket. In addition, the forecast error correction should be applied only to substantial errors in the external price change measures, and the market basket weights should be rebased. Other components of the update recommendation are addressed in more detail in the discussions accompanying Recommendations 2 and 3. Adjusting the weights to remove all observed case-mix change is discussed in Recommendation 14.

Other recommendations would also affect Medicare payments to hospitals. Recommendations 5 through 8 address the inclusion of capital payments in PPS. The addition of capital would increase per-case PPS payment amounts. But because the level at which the Commission recommends the addition of capital payments is lower than that forecasted for fiscal year 1987 under the current pass-through, the recommendation represents an estimated 10 percent reduction in per-case capital payments to hospitals from the cur-

rent law projection. Over five years, the reduction would be about 22 percent compared to a continuation of cost pass-through payment for capital. This reduction would represent less than 3 percent of total Medicare payments to hospitals during the five-year period.

Recommendation 29 would implement additional payments to hospitals for patients receiving a magnetic resonance imaging scan (MRI). This add-on would have a limited financial effect in the first year of implementation. Under the Commission's approach, all such increases in payment would be offset by reductions in the scientific and technological advancement component of the discretionary adjustment factor.

Recommendation 2: Allowance for Scientific and Technological Advancement and Productivity Goals, and Site-of-Care Substitution

For the fiscal year 1987 payment rates, the allowance in the discretionary adjustment factor for scientific and technological advancement, productivity improvement, and substitution in the site of service from inpatient to out-of-hospital settings should be set at minus 1.4 percentage points.

The Commission's update factor is composed of two overall elements—the hospital market basket inflation factor and the discretionary adjustment factor. The discretionary adjustment factor (DAF) is the quantitative expression of the Commission's judgment regarding the rate at which the Medicare standardized amounts should increase or decrease beyond inflation in the hospital market basket. This judgment reflects considerations outlined in the statute as well as other factors that ProPAC determines are important.

The Commission believes that its recommendation for the DAF results in an update factor which represents the smallest rate of increase that is consistent with maintaining high-quality services and sufficient access to hospital care for Medicare beneficiaries. While the Commission's recommendations do not explicitly take into account budgetary considerations related to the Medicare Hospital Insurance Trust Fund's solvency or the Federal deficit, they were developed in recognition of a very constrained fiscal environment.

The Commission recognizes that actions to reduce the Federal deficit could have a significant effect on the fiscal year 1987 update factor. Nevertheless, the Commission believes that the DAF should reflect its best judgment about the amount necessary to provide efficient, effective hospital inpatient services after accounting for inflation.

In constructing the DAF, the Commission is concerned with identifying factors that produce a change in the average cost of a discharge and determining the effect of these changes on the standardized amounts. The Commission recognizes that many factors can affect the average cost per case, and that it is difficult to develop precise estimates for the effect of individual factors. Because these factors are so closely related, available data frequently reflect more than one DAF component. For example, length-of-stay reductions reflect hospital productivity changes as well as shifts of services from inpatient to out-of-hospital settings.

Nevertheless, the Commission has attempted to allocate its fiscal year 1987 estimate of the overall discretionary adjustment factor to the following four components considered in its development: (1) scientific and technological advancement, (2) hospital productivity change, (3) site-of-care substitution, and (4) real case-mix change. A numeric allowance was developed for each component, after consideration of the interrelationships among the components. These allowances represent broad guidelines; they do not imply a high degree of precision or specificity in the estimation of the individual components.

DAF component	*Percentage allowance*
Scientific and Technological Advancement	+0.7
Hospital Productivity	−1.5
Site-of-Care Substitution	−0.6
Net Adjustment (Before Inclusion of the Allowance for Real Case-Mix Change)	−1.4
Real Case-Mix Change (Recommendation 3)	+0.9
DAF Total	−0.5

In total, the Commission recommends that the fiscal year 1987 update factor include a 0.5 per-

cent reduction to accommodate the considerations outlined in the DAF recommendation, compared to a 0.2 percent reduction recommended for fiscal year 1986. The numeric value of the Commission's DAF recommendation is subject to change in the next few months as more recent information on hospital case-mix change becomes available.

The Commission began the development of an overall DAF recommendation by examining trends in net intensity per admission. Net intensity is a measure of hospital expenditure changes after taking inflation into account. Changes in net intensity per admission reflect changes in productivity, case mix, and patterns of practice as well as errors in the measurement of input prices and time lags between input price increases and expenditure increases. Measures of net intensity also reflect increases in capital expenses that are currently not included in the standardized amounts.

Net intensity per case grew 3.9 percent during the first eight months of 1985—a rate of growth that is consistent with the pre-PPS long-term trend of double the real growth in the general economy. The Commission continues to believe that future growth in hospital expenditures should be constrained to reflect a balance between long-term growth in the hospital industry and in the rest of the economy.

The continued intensity growth in the hospital industry, however, masks some important changes under PPS. Measures of intensity are highly volatile and sensitive to short-term shifts in volume. The recent increase in net intensity per case can be largely attributed to decreases in admissions rather than to increases in hospital expenses. While net intensity per case increased 3.9 percent in the first eight months of 1985 compared to 1.7 percent in 1984, hospital admissions decreased 6 percent. Total inpatient expenses adjusted for inflation decreased in 1985. This suggests that reductions in net intensity are achievable as the hospitals adjust their use of resources to a lower volume of admissions.

Based on these overall considerations, the Commission has recommended a small negative aggregate allowance for the DAF. The remainder of this discussion addresses the first three components of the DAF recommendation for fiscal year 1987. The fiscal year 1987 adjustment for real case-mix change is addressed in Recommendation 3 and its accompanying discussion.

Scientific and Technological Advancement.—The scientific and technological advancement allowance is a future-oriented policy target. It reflects the Commission's judgment of the financial requirements for hospitals to implement quality-enhancing, cost-effective, but cost-increasing health care technologies and practices. This allowance reflects the judgment that the hospital industry will not and should not experience the same rate of growth as in the past decade. Nevertheless, a sufficient allowance must be provided to allow the industry to keep pace.

The Commission believes that advances resulting in greater efficiency for the hospital do not require a special allowance since they should ultimately be reflected in lower costs. The Commission also believes that scientific and technological innovations that neither improve quality or effectiveness nor lower costs are not relevant for consideration under the DAF since these innovations do not represent any real advancement. Those that contribute to changing the effectiveness and quality of hospital services may or may not contribute to increasing the cost of care.

This allowance represents the Commission's judgment about the funds required to cover increased hospital operating expenses related to the addition of both low- and high-cost quality-enhancing, cost-effective technologies. It reflects ProPAC's recognition that most of the requirements for funding technology in any given year result from the diffusion of existing technologies rather than from the introduction of new technologies. This allowance also reflects increased expenses attributable to changes in practice patterns that enhance quality and effectiveness but are not included in the allowance for real case-mix change.

In addition to this allowance, the Commission's recommended add-on for magnetic resonance imaging scans would increase payments to hospitals for technological improvement. ProPAC believes that targeted adjustments of this type should be offset in the DAF so that the total amount allowed remains unchanged by an add-on payment.

The scientific and technological advancement allowance does not reflect the anticipated changes in capital payments recommended by the Commission. Of the 3.9 percent increase in net intensity per case during the first eight months of 1985, as much as 1.0 percentage points can be attributed to capital expenses. If capital is added to the standardized amounts in fiscal year 1987 at a level lower than projected under current law, the scientific and technological advancement component of the DAF should be increased to reflect the additional appropriate capital resources required for funding this component of the DAF.

In developing the scientific and technological advancement allowance, the Commission recognized that the DAF was not the only source of financing technology adoption. As noted previously, the Commission expects that, during fiscal year 1987, hospitals will continue to be able to finance a portion of expenditures for new technology and improved practice patterns from gains in productivity. In addition, the increased operating margins that many hospitals appear to be achieving in the initial years of PPS are available to finance the implementation of scientific and technological advances.

Hospital Productivity.—The hospital productivity allowance in the DAF reflects the Medicare program's share of the potential changes in both efficiency and productivity resulting from PPS incentives to reduce the number and cost of resources for treating patients. The Commission adopted the position that it is both desirable and appropriate for productivity and efficiency gains to be translated into price reductions. The Commission also adopted the principle that such gains should be shared between the Medicare program, the Medicare beneficiaries, and the hospital industry. Productivity decreases, however, should not be directly subsidized by PPS.

Hospital productivity is difficult to measure due to problems in defining an appropriate output or product. Under PPS, the hospital product is defined as a discharge, as classified and labeled by the DRG system. At present, available data serve as an indicator of the potential for productivity gains but should not be viewed as direct measures of such change. The same data also frequently reflect changes in the types of services provided in inpatient and outpatient settings.

The potential for productivity gains was examined from a variety of perspectives, including changes in staffing patterns and length of stay and changes in the use of ancillary services. Historical trends formed the foundation upon which the Commission developed its productivity target for fiscal year 1987.

Although length of stay continues to decline, the rate of decline in 1985 was much slower than in 1984 (2.9 percent compared to 7.8 percent). A 2.9 percent reduction in length of stay cannot be directly or immediately translated into a 2.9 percent reduction in costs. The Commission believes, however, that for fiscal year 1987 such a decline could result in a 2.2 percent cost reduction associated with productivity gains, after accounting for real changes in case mix (Recommendation 3). In addition, changes in the use of ancillaries could contribute to between a 0.6 and a 2.5 percent reduction in costs. Savings from ancillary productivity gains, however, cannot be added in their entirety to savings from length of stay reductions. The estimates of length of stay savings reflect a 60 percent marginal cost assumption that includes some ancillary costs.

Since the Commission considers it appropriate for the industry to continue to benefit from the gains made in productivity, only a portion of these potential productivity gains are adjusted for in the DAF (minus 1.5 percent). The remainder of the potential cost savings is available to the industry to purchase improved technologies, to increase operating margins to fund future investments, or to offset costs associated with caring for more seriously ill patients who are not reflected in the real case-mix change adjustment.

Site-of-Care Substitution.—PPS provides significant incentives to change the nature of the hospital product, including incentives to shift services from an inpatient to an out-of-hospital setting or to move patients out of the hospital more quickly. Consequently, the services previously provided to patients during their hospital stay are now increasingly produced by using a mix of inpatient and out-of-hospital services. The Commis-

sion has termed this type of product change "site-of-care substitution." For patients admitted to the hospital, this shift in services would reduce the cost to the hospital of DRG production. Under these circumstances, the Medicare program and the beneficiaries could be overpaying for services since the cost base used to calculate DRG rates includes the costs of services that are now being provided in other settings.

Because of the implications for overpayment, the Commission has included an adjustment in the DAF that reflects the impact of site-of-care substitution on average inpatient costs per case. The allowance is not meant to reflect how diverting an entire admission to other settings would affect costs. An impact of this type of shift would be more appropriately considered under the real case-mix change adjustment. Instead, the allowance reflects the provision of services before and after hospitalization, which formerly were provided during the patient's inpatient stay.

The Commission's allowance for site-of-care substitution began with analyses of 1980-1984 data from a study conducted for ProPAC by the Commission on Professional and Hospital Activities (CPHA). These data compare average length of stay before and after PPS implementation. They reflect the impact of discharging a higher proportion of patients to other organized care settings and the effects of discharging these patients earlier than was the case before PPS went into effect. The data indicate a reduction in length of stay associated with higher proportions of patients discharged to alternative settings.

The analyses were limited to formal sites of care (e.g., discharge to nursing homes, discharge to home with home health services). They do not, however, reflect the substantial changes in site of follow-up care to physicians' offices or outpatient departments, the results of earlier discharge to alternative care settings, or increased use of preadmission services. Moreover, many hospitals were not on PPS or were on PPS only for a short period during 1984, and thus had limited exposure to PPS incentives for site substitution. The Commission believes that these early data from CPHA represent only a fraction of the site substitution that has occurred under PPS. Consequently, the Commission has specified an allowance of 0.6 percent to reflect its best judgment about the total effect of site substitution on reducing Medicare cost per case.

The Commission recognizes that the potential for productivity increases and site-of-care substitution is likely to diminish over time. Nevertheless, ProPAC continues to believe that there are substantial opportunities for achieving productivity gains during fiscal year 1987. Furthermore, it believes that site-of-care substitution has occurred and should be reflected in a reduction in the DAF.

Although separate allowances for quality or long-term cost-effectiveness of care were not established, the Commission treated these factors as overarching considerations in setting the level of the DAF and in examining each of the DAF components. More specifically, the Commission viewed quality and long-term cost-effectiveness as objectives to be achieved by implementation of rational payment policies. For more information on this recommendation, see Technical Appendix A.

Recommendation 3: Allowance for Real Case-Mix Change

Prospective payments should reflect real changes in case mix that are due to changes associated with the characteristics of patients and not changes simply due to better coding of records. The DAF allowance for real case-mix change should reflect both shifts in patients among the DRG categories, as measured by changes in the average case-mix index (DRG case-mix change), and changes in the mix of patients within DRG categories (patient complexity change). For the fiscal year 1987 payment rates, the allowance for real case-mix change should be set at 0.9 percent. This allowance represents a 0.2 percent adjustment for changes in the DRG case-mix index and a 0.7 percent adjustment for patient complexity changes.

In the April 1985 report, the Commission concluded that since PPS payments automatically reflect all changes in reported DRG case mix as they occur, an adjustment would be necessary to ensure that only changes in real case mix are built into future payment rates. To accomplish this, the

Commission recommended lowering all DRG weights to adjust for changes in DRG distribution but returning a portion of the lower payments to the hospitals through the DAF adjustment for real case-mix change. This adjustment was also intended to reflect changes in the complexity of patients within DRG categories.

The Commission did not actually specify a quantitative adjustment for real case-mix change in the April 1985 report. Quantification of the adjustment was provided in the Commission's comment on the Secretary's Notice of Proposed Rulemaking in July 1985. The Commission's estimate of real case-mix change was based on a preliminary study by the Rand Corporation. The Commission estimated that a 2.0 percent increase in reported case mix would occur during 1985. Of this increase, 0.8 percent was attributed to real case-mix change. This estimate reflected consideration of historical trends in real case-mix change, recent shifts to outpatient treatment, and within DRG patient complexity changes that would not be reflected in the DRG case-mix index.

For this report, the Commission has incorporated a 1.0 percent reduction in the DRG weights to account for observed changes in the DRG case-mix index during fiscal year 1986. Based on historical trends, the Commission estimates that the portion of this increase due to real changes in DRG case mix is 0.2 percentage points.

These figures may change as more recent data are reported. Currently, no data on DRG case-mix change for fiscal year 1986 are available. The most recent information is provided in another study by the Rand Corporation, which reports that the overall DRG case-mix index did not change from the fourth quarter of fiscal year 1984 through the second quarter of fiscal year 1985. The Commission believes, however, that while changes in the DRG case-mix index may have leveled off, it is consistent with recent experience to expect a small increase due to more accurate coding as hospitals continue to adjust to PPS and as hospitals in formerly waivered states (i.e., New York and Massachusetts) are brought into PPS for the first time.

Based on a study that CPHA conducted for ProPAC, the Commission has specified a 0.7 percent adjustment for increases in patient complexity during fiscal year 1986. This adjustment is a reflection of historical trends in length of stay associated with patient complexity changes that occurred in the two years before implementation of the Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA). In that period, both Medicare and non-Medicare patients experienced approximately the same rate of increase in length of stay associated with increased complexity.

Between 1982 and 1983, significant increases in length of stay associated with greater complexity were found for both populations. The increase was substantially greater, however, for Medicare patients. During 1984, length of stay related to complexity decreased compared with 1983, but not to the level of the period preceding TEFRA enactment. The Commission has assumed that the increase between 1982 and 1984 was highly subject to the influence of improved hospital coding practices and may not represent actual changes in complexity. Thus, the Commission has based its estimate of real complexity change on hospitals' experience before 1983. The Commission has also assumed that a 0.7 percent increase in length of stay associated with increased complexity would translate into a 0.7 percent increase in costs. These estimates are subject to revision later in the year when data for 1985 will be available from CPHA. For more information on this recommendation, see Technical Appendix A.

Recommendation 4: Update Factor for Excluded Hospitals and Distinct-Part Units

For fiscal year 1987, the target rate of increase limits for the group of psychiatric, rehabilitation, and long-term care hospitals and hospital distinct-part units excluded from PPS should be updated to reflect the projected increase in the hospital market basket for these hospitals (corrected for forecast errors) minus a 0.8 percentage point adjustment for productivity and scientific and technological advancement goals established for PPS hospitals.

The target rate of increase limit for children's hospitals and distinct-part units should be updated to reflect the projected increase in the hospital market basket for PPS hospitals (corrected for forecast errors) minus a 0.8 percentage point adjustment for productivity and scientific and technological advancement goals established for PPS hospitals.

The PPS statute created two broad classes of hospitals—those that would be paid on the basis of DRGs and those that would not. Excluded hospitals—psychiatric, rehabilitation, pediatric, and long-term care hospitals (hospitals with unusually long average lengths of stay)—continue under cost reimbursement rules, which limit reimbursement per discharge. Both the PPS standardized amounts and the reimbursement limits for excluded hospitals are to be updated each year.

The types of patients seen and the treatment they receive vary significantly between PPS and excluded hospitals. The Commission believes it is appropriate to develop a separate update factor for the hospitals and units excluded from PPS but still subject to the target rate-of-increase limits. The Secretary has stated in the final rule governing PPS payments for fiscal year 1986 that the PPS statute requires application of the same update factor to both PPS and excluded hospitals. The Commission nevertheless reaffirms its position that the Secretary has the authority to establish a separate update factor for excluded hospitals. If, however, uncertainty about this authority remains, the Secretary should seek legislative change to obtain explicit authority for establishing separate rates of increase appropriate to the two different payment systems.

The update factor for excluded hospitals includes two allowances in addition to inflation: one for scientific and technological advancement, and another for productivity change. While it has been more difficult to quantify these concepts for excluded hospitals than for PPS hospitals, the Commission continues to believe that the update factors for both types of hospitals should include an adjustment for these elements.

Based on currently projected inflation rates, ProPAC estimates that this recommendation would lead to a 3.5 percent increase in the target limits for children's hospitals and distinct-part units, and a 3.7 percent increase for the rest of the excluded facilities. A summary of the Commission's recommendations for excluded hospitals appears in the table following this discussion.

These estimates are based on the assumption that capital expenses will not be brought under the target rate-of-increase ceiling. The Commission will reevaluate the appropriateness of its update recommendation if—and when—these payments are made subject to the target limits. In addition, the numeric value of the Commission's recommendations for excluded facilities will need to be modified as more recent forecasts of inflation become available.

The Commission reaffirms its 1985 recommendation calling for development of an inflation factor for the group of psychiatric and rehabilitation hospitals and units, and long-term care hospitals. The factor should reflect the mix of labor and nonlabor resources used by these hospitals rather than those used in PPS hospitals. This recommendation is based on the Commission's observation that the labor share of expenses in these hospitals is substantially higher than in PPS hospitals.

The Commission also continues to recommend using the PPS market basket to calculate inflation for children's hospitals. Analysis by ProPAC and others indicates that the labor share of total expenses in these hospitals is close to the overall average on which the current PPS weights are based. Thus, the PPS market basket weights are appropriate for children's hospitals.

The Commission currently estimates a fiscal year 1987 market basket inflation factor of 4.8 percent for psychiatric and rehabilitation hospitals and units, and long-term care hospitals, compared with 4.6 percent for PPS and children's hospitals. After applying a minus 0.3 percent factor to correct for errors in the 1986 market basket forecast, the net inflation-related adjustment in the fiscal year 1987 payment rates would be 4.3 percent for children's facilities and 4.5 percent for the remainder of the excluded facilities. This adjustment is likely to change after more current forecasts of market basket inflation are received later in fiscal year 1986.

While it might be appropriate to adopt scientific and technological advancement and productivity allowances reflecting the production functions of the various classes of excluded hospitals, insufficient evidence precluded doing so in this report. For fiscal year 1987 at least, the Commission has concluded that it is reasonable to incorporate the PPS allowances for scientific and technological advancement and productivity in

the excluded facilities' update factor. The Commission will continue to study the feasibility of developing separate allowances as a part of its long-term research agenda.

Two other adjustments included in the update factor for PPS hospitals, however, are not relevant to excluded hospitals.

First, the Commission reaffirms its 1985 decision not to incorporate any adjustment for real case-mix change in the DAF for excluded hospitals. Since excluded hospitals are not paid on a DRG basis, they have no incentive to upgrade the coding of cases. On the other hand, excluded hospitals may be experiencing increases in the acuity of illness in the patients they see due to the earlier transfer of sicker patients from PPS hospitals. At present, however, there are no data suitable for estimating the degree to which case mix may be changing in excluded hospitals.

Excluded hospitals are somewhat protected from these case-mix changes by an exceptions process that allows them to appeal their payment rates if they can demonstrate significant changes in case mix. The exceptions process is not only extremely cumbersome, however, but provides only retroactive relief. If relief is granted, it typically takes more than two years from the time excess costs are incurred. Therefore, it is unclear whether this exceptions process can adequately adjust for changes in case mix.

Second, the Commission believes that there is insufficient justification for including an adjustment for site substitution in the update factor for excluded hospitals. Compared with PPS hospitals, excluded hospitals have much weaker incentives and opportunities to shift services to other settings. As discussed above, these hospitals are much more likely to receive transfers from other facilities than to discharge patients early and refer them elsewhere. Under these circumstances, a positive adjustment for site substitution might be justified. At present, however, there are no data on which to base such an adjustment.

HCFA and others have conducted studies that have enhanced understanding of the differences between the PPS hospitals and excluded hospitals and units. Their relevance to development of the update factor is, however, limited. The Commission intends to continue to study excluded hospitals and to develop trend data relevant to the update factor. For more information on this recommendation, see Technical Appendix A.

Estimated Increase In Excluded Hospital Payment Limits For Fiscal Year 1987 Under Commission Recommendations

	Children's	Psychiatric/ Rehabilitation/ Long-term Care
Fiscal Year 1987 Market Basket Increase[a]	4.6%	4.8%
Correction For Market Basket Forecast Errors In Fiscal Year 1986[b]	−0.3	−0.3
Discretionary Adjustment Factor	−0.8	−0.8
Scientific And Technological Advancement	*0.7*	*0.7*
Productivity	*−1.5*	*−1.5*
Total Change	3.5	3.7

[a]DRI forecasts based on actuals through the calendar year 1985. This estimate takes into account the Commission's April 1985 recommendation for changing the treatment of wages in the hospital market basket.
[b]ProPAC estimate comparing DRI forecasts based on actuals through calendar year 1984 to forecasts based on actuals through the third quarter of 1985. The estimated adjustment here excludes errors in forecasting internal price proxies, as recommended by the Commission in its April 1985 report.

Capital

Recommendation 5: Including Capital in the Prospective Payment System

Beginning in fiscal year 1987, the Secretary should initiate a transition to all-inclusive prospective prices that combine operating and capital cost components in a single prospective payment per case for hospitals.

Retrospective cost-based reimbursement for capital lacks incentives for hospitals to restrain overall investment costs. Instead, it promotes insensitivity to interest rates and alternative financing methods. In addition, some hospitals may have invested in capital to produce services that exceed the demands of the inpatient hospital services market.

The combination of Medicare PPS and the capital pass-through has introduced additional distorted incentives to substitute capital for labor or other operating costs. As a result, the hospital that

can substitute capital for operating costs (and assume the risk of additional capital acquisition) receives more in total Medicare payments (i.e., hospitals receive fixed DRG payments plus increased cost reimbursement for capital expenditures).

The Commission strongly believes that the capital payment policy adopted should provide neutrality in capital/operating cost trade-offs. The payment method should not favor either capital or operating costs. Instead, it should encourage hospital managers to choose the optimal combination of these cost components. An all-inclusive payment rate would allow individual providers the flexibility to make what they consider to be the most cost-effective decisions based on the unique characteristics of their institutions.

The Commission is aware, however, that implementation of an all-inclusive rate at the levels set forth in its proposal may affect some hospitals disproportionately due to their individual financial positions. The Commission's proposal for capital payment, as explained in subsequent recommendations, may cause some hospitals to face significant cash shortfalls as a result of current and near-term obligations. ProPAC believes, however, that these shortfalls would not occur during the early years of the phase-in of its proposed capital policy. During this period, payments for capital should be sufficient to meet these hospitals' capital-related cash needs. Meanwhile, the Commission will monitor the implementation of the new capital payment system to identify potential problem areas for hospitals. Moreover, for reasons stated elsewhere, ProPAC believes that there should be no delay in implementing capital payment under PPS.

The Commission will continue to study the impact of its capital payment proposal on hospitals, focusing on those institutions that may be disproportionately affected by new capital payment policy. If the Commission determines that certain hospitals are unfairly treated by bringing capital payment into PPS, and that the quality and accessibility of care furnished to beneficiaries by these hospitals are jeopardized, it will develop and recommend appropriate remedies to the Secretary. For example, ProPAC will examine public and private sector options such as a hospital "borrow forward" program for financing capital expenditures.

The Commission intends to evaluate recent changes in hospital investment strategies and their impact on inpatient capital spending and the adequacy of future payments. Estimates of inpatient capital spending should be examined closely since recent capital expenditures may be heavily devoted to outpatient services. Furthermore, the addition of capital payments to PPS creates incentives for increased outpatient treatment due to the difference in reimbursement methods for inpatient and outpatient services. Finally, the Commission will study the impact of paying hospitals for capital based on the volume of Medicare services rather than on costs.

The Commission decided not to address the role of health planning in capital payment under PPS. It is aware that the PPS statute calls for required application of Section 1122 of the Social Security Act to regulate Medicare inpatient capital payment beginning in fiscal year 1987, and that proposals have been advanced to repeal this provision. The Commission expects that the Congress will deal with this issue in its legislative agenda for fiscal year 1987.

In summary, the Commission is concerned about these and other influences of new capital payment policy on all hospitals and specifically on disproportionately affected hospitals. ProPAC plans to study these issues and share its analysis with policymakers in order to achieve a capital payment policy that provides for the financial needs of hospitals while offering incentives for cost-effective decision making in the future. For more information on this recommendation, see Technical Appendix A.

Recommendation 6: Capital Payment Method

The Federal portion of capital payments should be computed as a fixed percentage add-on to the standardized amounts beginning in fiscal year 1987. The Secretary should immediately develop capital components to be added to the hospital market basket. When appropriate data become available, the components of PPS payments should be recomputed to reflect the addition of capital costs. The results of this recomputation should be implemented

as soon as possible, but no later than fiscal year 1988.

The Commission believes that developing an all-inclusive rate eventually requires recomputation of several components of the PPS system. Specifically, the addition of capital will result in new standardized amounts with new proportions for labor and nonlabor components. It may also require new adjustment rates for indirect medical education and any other adjustments in effect at the time capital is added.

The Commission's recommendation to recompute payment components will require data not currently available that reflect the addition of capital under PPS. The Commission believes, however, that distorted incentives exist under the current capital expenditures pass-through system that require a new payment policy to be implemented as quickly as possible. For this reason, the Commission recommends that an interim payment method of the percentage add-on to the standardized amounts be implemented beginning in fiscal year 1987. Recomputation of the payment system to reflect the addition of capital differs from the issue of recalculating the standardized amounts using new data for the purpose of changing the overall level of payments (Recommendation 13).

The Commission plans to study the impact of the addition of capital on other payment system components and appropriate proxies for capital costs in the hospital market basket. The Commission will also study whether adjustments for geographic variations in construction capital costs are appropriate.

The add-on should be applied in such a way that the distribution of capital payments will not be affected by the area wage index or the indirect teaching adjustment. Payment would, however, reflect case-mix variations and the differentiations associated with the national and regional standardized amounts. In addition, if the transition to national rates for operating payments is delayed, the Commission will consider whether the capital payment transition should be coordinated with the operating payment transition. For more information on this recommendation, see Technical Appendix A.

Recommendation 7: Level of Federal Capital Payment

Capital payment should be added to the Federal portion of PPS payments for hospital accounting years beginning in fiscal year 1987 at the following levels:

- **For building and fixed equipment, projected average Medicare actual capital costs per discharge for fiscal year 1985, trended forward to fiscal year 1987 by an index of construction capital costs.**
- **For moveable equipment, average actual Medicare capital costs per discharge for hospital accounting years beginning in fiscal year 1983, trended forward to fiscal year 1987 by an index of equipment capital costs.**
- **The proportion attributed to moveable equipment should be the lesser of the 1983 proportion or 40 percent.**

The Commission believes that the capital payment system should distinguish between two components: fixed capital (land, buildings, and fixed equipment) and moveable capital (major moveable equipment). This approach recognizes the differences between fixed and moveable capital expenditures and the differing effects of PPS payment incentives on hospital decisions regarding these cost components.

Moveable capital is purchased and turned over more frequently than fixed. For each year, in fact, the composition of moveable capital changes as assets are disposed of and replaced. Fixed capital is purchased infrequently and involves major capital expenditures, often requiring external review. Moveable capital purchase decisions often require hospital managers to make judgments regarding capital/operating cost trade-offs. Fixed capital, on the other hand, is not easily converted to another use, and related expenditures cannot be eliminated in the short-term. Financing of moveable capital may include leasing or use of a hospital's own funds in addition to borrowing. On the other hand, financing of fixed capital costs usually requires the use of debt or additional equity.

Furthermore, the time lag for purchase decisions, financing, and completion of fixed capital projects is typically several years. In some cases,

fixed capital expenditure decisions made by hospital managers before the introduction of PPS have not yet been fully implemented. Other fixed capital projects initiated in the early 1980s have just recently been completed, yet the related costs may not be fully reflected in current Medicare capital cost data.

For reasons stated above, the Commission believes that moveable equipment is more susceptible to the incentives of the current payment system for capital/operating cost trade-offs. ProPAC therefore recommends that 1983 be adopted as the base year for calculating moveable equipment payments since 1983 reflects a time when capital and operating costs were treated equally. Furthermore, the Commission believes that this approach would provide for control of Medicare expenditures without causing financial hardship for hospitals. This is because capital pass-through payments since 1983 have been sufficient for hospitals to recover a substantial portion of their 1983 moveable equipment costs.

The Commission recognizes, however, that hospitals recover fixed capital costs over an extended period. Moreover, since there is significant lag time for fixed capital projects, hospitals cannot respond as quickly to the incentives of a new payment system or to warnings about the future treatment of capital. The Commission selected the base year of 1985 because fixed capital costs reported in that year would reflect decisions made before PPS. For fiscal year 1987, the 1985 base year fixed capital costs will have to be estimated. When actual 1985 capital cost data become available, the Commission will compare these data with previous estimates and consider recommending adjustments, if appropriate.

The base year amounts for fixed and moveable capital should be trended forward to 1987. Separate indexes should be used that recognize the differences in cost trends between fixed and moveable capital. The Commission will study the data and application of these trending factors and will participate in determining the most appropriate indexes.

Federal payments for fixed and moveable capital should be based on Medicare's current definition of these cost components. All capital-related costs should be allocated to these components, including depreciation, interest, leases, rentals, insurance, return on equity, and taxes on depreciable assets used for patient care. The Commission believes that the current proportion of capital-related costs attributable to moveable equipment is no more than 40 percent. If, in monitoring the implementation process, it is determined that moveable equipment comprises more than 40 percent, the Commission recommends that the excess over 40 percent be included in the hospital-specific capital payments during the transition.

The Commission estimates that its proposal for the level of capital payment, combined with the transition plan (see Recommendation 8), will result in savings of approximately $8 billion compared to estimated cost pass-through payments during the next five years. For more information on this recommendation, see Technical Appendix A.

Recommendation 8: Capital Payment Transition

The transition to Federal capital payments under PPS should begin in fiscal year 1987 in accordance with the following provisions:

- **There should be no transition for moveable equipment. All payments for moveable equipment should be included as a fixed percentage add-on to the Federal standardized amounts beginning in fiscal year 1987.**
- **Payments for fixed plant and equipment should be phased in as a fixed percentage add-on to the Federal standardized amounts over a seven to ten year period on a straight-line basis.**
- **For plant and fixed equipment, hospital-specific capital payment portions should be the actual costs incurred during each year of the transition.**
- **During the transition, the Federal portion for plant and fixed equipment should be updated each year by an index of construction capital costs.**
- **The addition of capital to the Federal standardized amounts should reflect base-year treatment of return on equity and interest offsets. Return on equity payments should be added to the hospital-specific portion of operating payments.**

Once the transition to national rates for operating payments ends, there should be no hospital-specific payment for return on equity.

The purpose of a transition period for capital payments is to enable hospitals to position themselves to absorb the financial impact of the new capital payment system and to adjust their spending behavior accordingly.

The Commission considered several transition alternatives for moveable capital. It concluded that any transition period that would continue the cost pass-through for capital payments would perpetuate incentives for inappropriate hospital purchasing behavior. With the knowledge that moveable capital would eventually be included in PPS rates, hospitals would be encouraged to purchase and replace equipment unnecessarily during the transition, when a large portion of their hospital-specific costs would continue to be reimbursed.

The Commission believes that most of the costs related to moveable equipment acquired before the introduction of PPS have been already recovered. Therefore, a transition period is not necessary. A significant portion of payments for moveable capital would, in fact, support future purchases rather than the cash needs of prior purchases. Finally, the inclusion of moveable capital into the payment system without a transition provides funds immediately for hospitals that have not been able to afford equipment purchases.

The Commission believes that a relatively long transition period for fixed capital payments should be provided, however. The long-term commitments of individual hospitals for fixed capital must be recognized in the capital payment system. Unlike moveable capital, the costs related to fixed capital projects continue for many years. Hospitals must be provided the opportunity to position themselves in order to continue to meet the costs of fixed capital projects completed in the past. The Commission believes that a relatively long transition period will enable hospitals, regardless of their fixed capital commitments, to absorb the financial impact of the new capital payment system. If it is determined, however, that certain hospitals would be inappropriately disadvantaged during the transition, the Commission will consider options for assistance. (Refer to the discussion for Recommendation 5.)

Furthermore, hospitals should not be unduly penalized for fixed capital commitments made before the beginning of PPS, although it is difficult to determine the time of commitment due to the lags for fixed capital projects. In addition, some hospitals delayed fixed capital expenditures due to external constraints on construction or failure to secure needed funds. These factors make it difficult to select a threshold for fixed capital spending commitments. The Commission, therefore, recommends that hospitals' actual fixed capital costs be paid during each year of the transition. This will enable hospitals to meet their debt obligations while encouraging cost-effective decision making for construction and financing in the future.

The Commission recognizes that return-on-equity payments have been provided to investor-owned hospitals because cost reimbursement, in principle, does not afford an opportunity for these hospitals to earn profits. But DRG payments under PPS do provide opportunities for all hospitals to earn profits. The Commission believes it is unnecessary and undesirable to continue to pay return on equity in DRG prices. Therefore, return on equity should be phased out of hospital-specific payments for investor-owned hospitals in the same proportions and under the same schedule as the operating payment transition to national payment rates.

Proposals have been advanced to remove return on equity payments and to extend interest offset provisions to include interest earned on funded depreciation and donations. The Commission believes it would be inappropriate to remove these earnings from the Federal portion of capital payments to the hospital industry. Thus, it proposes including the associated revenues in the average capital payment per discharge calculations. Substantial reductions in capital payments, compared to current law, are already contained in the Commission's base year and trending recommendations. For more information on this recommendation, see Technical Appendix A.

Adjustments to the Payment Formula

Recommendation 9: Disproportionate Share Hospitals

An adjustment to the PPS rates for hospitals serving a disproportionate share of low-income patients should be implemented as soon as possible. This adjustment should specifically incorporate a definition and methodology in keeping with the character of the adjustments already being considered by the Congress. This adjustment should not change the total aggregate dollar amount paid to all hospitals.

This recommendation is a reaffirmation of a recommendation ProPAC made in the April 1985 report. The Commission remains convinced that hospitals serving a high volume of low-income patients (as measured by a variety of definitions) do incur higher Medicare costs per case. The update factor is likely to be constrained by broader government budget considerations. Consequently, the Commission is even more strongly convinced that a disproportionate share hospital adjustment should be implemented to provide equity to hospitals serving numerous low-income patients.

Although the Commission is pleased that the Congress addressed this issue as part of the reconciliation process, legislative change had not been enacted by the time this report was written. ProPAC is aware of the definition of disproportionate share hospitals published by the Secretary in the *Federal Register*, December 31, 1985. It believes, however, that this definition was not similar in character to the definition being developed in the Congress. In addition, the definition was not adequate to meet the special needs of disproportionate share hospitals and the beneficiaries they serve. The Commission hopes that further work by the Secretary will be more closely aligned with the intentions of the Congress.

Because the Commission is convinced of the seriousness of this issue, it intends to continue to study the consequences of changes in Medicare payment policies on the hospitals that serve disproportionate numbers of low-income patients. For more information on this recommendation, see Technical Appendix A.

Recommendation 10: Improving the Definition of Hospital Labor Market Areas

The Secretary should improve the definition of hospital labor market areas for fiscal year 1987, if possible, and no later than fiscal year 1988. For urban areas, the improved definitions should account for a greater amount of the wage variation between inner-city and suburban hospitals. For rural areas, the improved definitions should account for a greater amount of the wage variation between different rural areas within each state and between states. The implementation of improved definitions should not result in any change in aggregate hospital payments.

The Commission reiterates its belief that the current adjustment for area wage differences does not adequately account for the existence of separate labor markets within urban and rural areas.

In its April 1985 report, the Commission recommended that the Secretary develop and adopt improved definitions of hospital labor market areas. This recommendation was based on the results of studies that showed substantial variation between the wages paid by inner-city hospitals and the wages paid by suburban hospitals within the same Metropolitan Statistical Area (MSA). The Commission believed that the payment inequities resulting from this wage variation were substantial enough to warrant immediate correction.

Since this recommendation was made, the Commission has undertaken a study of hospital wage variation in both urban and rural areas using the most recently available HCFA data. The findings of this study, to date, support ProPAC's previous conclusion that substantial wage differences occur within many urban and rural areas.

The Commission believes that the most feasible approach for improving the definition of hospital labor market areas is to identify, wherever possible, additional labor markets within current area definitions. Alternative area definitions, such as the Bureau of Economic Analysis Areas (BEAAs) and Health Care Commuting Areas (HCCAs), do not account for a greater amount

of hospital wage variation than current area definitions. In the Commission's judgment, therefore, these alternative area definitions are not adequate replacements for the current area definitions.

The Commission's study suggests several promising and feasible approaches for identifying additional labor markets within current area definitions. Within urban areas, separating MSAs into central counties and surrounding counties accounts for a greater amount of hospital wage variation than the current areas. Within rural areas, the rural portions of BEAAs account for the greatest amount of hospital wage variation when compared to several alternatives. Separating rural counties into two groups (i.e., counties that are adjacent to MSAs and all others) accounts for an amount of wage variation comparable to the rural portions of BEAAs.

The Commission considers these approaches promising because they account for more hospital wage variation. In addition, they do not substantially increase the number of areas that contain only a few hospitals. ProPAC believes that labor market areas should contain a sufficient number of hospitals to prevent individual hospitals from having an inappropriate impact on their own area wage index. Therefore, the Commission recommends that any improvements in the definition of hospital labor market areas should not substantially increase the number of areas with a small number of hospitals.

The Commission is not yet prepared to make specific recommendations for improvements. Based on the preliminary findings of its study, however, it believes that improved definitions are warranted for both urban and rural areas. The Commission continues to believe that better definitions would substantially increase the equity of payments to some hospitals. ProPAC will provide specific recommendations to the Secretary before the completion of the rulemaking process for fiscal year 1987, if possible, and no later than April 1987. Furthermore, the Commission is prepared to share with the Secretary the preliminary findings of its ongoing study of hospital wage variation. For more information on this recommendation, see Technical Appendix A.

Recommendation 11: Rural Hospitals

In the original PPS legislation of 1983 and the Deficit Reduction Act of 1985, the Congress required the Secretary to study and report on a number of rural hospital issues. To date, none of these studies has been submitted to the Congress. Preliminary studies by the Commission suggest that there are potential problems in the way rural hospitals are treated under PPS. To facilitate open and informed public debate of rural hospital issues, the Commission urges the Secretary to complete and publish the congressionally mandated studies as soon as possible. If the results of the Secretary's studies indicate that changes in payment policies affecting rural hospitals are warranted, appropriate modifications to current policy should be implemented as soon as possible, including legislative change, if necessary. The Commission will continue its analysis of rural hospital issues and make specific recommendations in the future if findings indicate that changes in PPS payment policy are desirable.

Under PPS, various technical policies have been implemented that the Commission believes may adversely affect rural hospitals. Some of these effects result from policies applicable only to rural hospitals. Others result from policies that affect all hospitals, but that have a potentially stronger adverse impact on rural hospitals.

The PPS payment policy to calculate separate urban and rural standardized amounts reflects the historically lower average costs in rural hospitals. These cost differences remain even after adjusting for area wage differences, teaching activity, and DRG case mix. The cost differences partly reflect urban hospitals' larger size and wider range of services.

The differences also may be due to a triaging of more severely ill rural patients to urban hospitals, which is not reflected in the DRG case-mix index. A recent study by Health Economics Research, Inc. (HER) for HCFA suggests, however, that severity of illness explains no more than 1 percent of the cost difference between urban and rural hospitals. In contrast, the study indicates that a substantial portion of the cost difference can be accounted for by variations in medical practice patterns.

Whatever the underlying reasons for the cost differences, the establishment of separate standardized amounts has resulted in lower payments to rural hospitals. National standardized amounts were $2,985.05 for urban hospitals compared to $2,381.39 for rural hospitals in fiscal year 1985. The causes of the historical cost difference need further examination before permanently institutionalizing a two-tier payment system that potentially penalizes rural hospitals for historically achieving lower costs. This examination should include an assessment of the effects of a two-tier system on Medicare beneficiaries' access to or quality of care.

PPS payment policies related to outliers, area wage definitions, payments for DRGs with high device and low labor costs, and methods for calculating the standardized amounts further widen the difference between urban and rural average PPS payment levels. For further discussion of these policy issues, see Recommendation 10, 13, and 24 and Technical Appendixes A and B.

This discussion highlights technical issues related to the treatment of rural hospitals under PPS. Ultimately, however, the rural hospital policy debate may center on whether PPS, as currently structured, is appropriate for all rural hospitals. If it is not, the question is for which hospitals it is inappropriate.

In particular, the financial vulnerability of small rural hospitals to fluctuations in volume and case mix has caused concern. For larger institutions, minor fluctuations in volume and case mix are less critical. Larger hospitals can average these fluctuations from year to year and over a large number of cases. Small rural hospitals cannot take advantage of this "law of large numbers." If such hospitals are located in relatively isolated areas, and a deteriorating financial position results in closure of the facility, Medicare patients' access to services may be severely compromised.

Preliminary findings for 1984 indicate that hospitals in rural areas have experienced overall improvement in their financial position since implementation of PPS. The evidence regarding the first year of PPS should be viewed with caution, however. Given the reporting cycle of hospitals, many were not on PPS or were on PPS only for a short period in 1984. Moreover, recent evidence from the AHA's Panel Survey indicates that very small hospitals, the majority of which are rural, had negative patient revenue margins during 1985. Furthermore, these data provide little insight into the financial condition of hospitals under fully implemented national PPS payment rates or under all-inclusive rates encompassing capital and operating costs.

The Commission's PPS payments model indicates that, compared to the average experience of all hospitals, rural hospitals as a group would receive lower revenues per case as PPS moves to complete Federal rates. (See Technical Appendix C for further discussion of the effects of the transition.) Nevertheless, not all rural hospitals would lose under the system. Further analyses are required to determine which hospitals are jeopardized financially by Medicare's PPS policies and what, if any, technical adjustments would be appropriate.

In the end, the Congress or the Secretary or both may have to determine whether it is appropriate to pay slightly more money or to pay differently to avoid insolvency among certain small rural hospitals. That is, after correction for PPS' technical problems, small rural hospitals may still become insolvent due to declines or wide swings in volume or case mix or both. It may be cost-effective for Medicare to pay slightly more or slightly differently for care in these hospitals. This could be the case if, by doing so, rural patients are not required to seek care in distant urban hospitals where the care is less accessible and more costly. In this light, it will be important to analyze whether the current Sole Community Hospital provisions in PPS provide adequate adjustment for the problems of small, isolated rural hospitals.

In examining the potential cost-effectiveness of having Medicare pay more for services in isolated rural areas, it also will be important to assess the ability of other public funding sources to provide support for these hospitals. For example, 45 percent of the rural hospitals were government-owned in 1984. The question is the extent to which funding sources beyond PPS influence the continued ability of rural hospitals to provide services to Medicare beneficiaries.

Some of the policy issues outlined here are the subject of congressionally mandated studies. As a part of the legislation creating PPS (Pub.L. 98-21), the Congress required the Secretary to conduct studies on: 1) the feasibility and impact of eliminating or phasing out separate urban and rural rates; 2) an equitable method of reimbursing Sole Community Hospitals, taking into account their unique vulnerability to substantial variations in occupancy; and 3) appropriate payment policies for large rural teaching hospitals. In addition, the Deficit Reduction Act of 1985 (Pub.L. 98-369) required the Secretary to review and report to the Congress on the appropriateness of urban/rural differential payments as they apply to DRGs with high nonlabor costs (e.g., device and supply costs). These studies have not yet been submitted to the Congress.

While the studies do not address the complete range of issues outlined by the Commission, they are likely to provide valuable baseline information for analyzing the impact of PPS on rural hospitals. The Commission, therefore, urges the Secretary to complete and publish the findings from the congressionally mandated rural hospital studies as soon as possible. The Commission also will continue to analyze rural hospital issues. It is prepared to share with the Congress and the Secretary its findings as they are developed. For more information on this recommendation, see Technical Appendix A.

The Standardized Amounts

Recommendation 12: Earlier Availability of Medicare Cost Data

The Commission is pleased that the Secretary has taken steps to speed up the availability of Medicare Cost Report data from the first year of PPS. The Commission recommends that making cost data available as soon as possible be an ongoing effort, since these data are vital both to assess the relationship between PPS payments and hospital costs and to analyze the costs of individual DRGs. As part of this ongoing effort, alternative strategies for sampling hospital cost data should be considered. The necessary additional resources should be allocated for timely processing of these data.

More timely cost data are essential for improving PPS and understanding how it affects hospitals. Cost data are needed to assess the appropriateness of the overall level of PPS payments, to examine the ways in which hospitals have reacted to the PPS incentives to lower costs, and to analyze the costs of individual DRGs and services. The Commission has felt at a disadvantage in making recommendations based on 1981 cost reports because these data do not reflect the effects of PPS or other recent changes that are likely to have changed hospital costs.

Most hospitals have accounting years that begin after the Federal fiscal year. Consequently, there is a considerable lag in obtaining a complete set of cost reports. For example, the set of cost reports from the first year of PPS, which began in October 1983, will include hospitals with accounting years that ended as late as August 1985. Hospitals have three months to submit the report, and additional time is needed for the fiscal intermediary to enter the data into the automated data processing system. Even more time is needed to complete an audit. It can take up to a year after the end of the hospital accounting year until final settlement is made.

Because of this time lag in obtaining a complete set of cost report data, accelerating the availability of cost data requires developing a sample of hospitals. Data from a sample will not be as thorough as data ultimately received on all hospitals. The extent of the errors is predictable, however, and the benefits of having more recent information outweigh the disadvantages.

HCFA has tried to speed up the compilation of cost data from the first year of PPS. Unaudited cost report data for all PPS hospitals were expected centrally at HCFA by February 1986. In addition, audited data from a sample of 1,200 hospitals were expected by March 1986. Audits would normally be performed in the order in which hospitals submit their cost reports. This sample was chosen so that audited data on a representative group of hospitals would be available earlier. Unfortunately, neither data set was available in time for the Commission to use in its deliberations for this report.

Statistical analysis performed for the Commission by the Rand Corporation indicates that HCFA's audit sample, when weighted for sampling by census region and bedsize, is represent-

ative of those hospitals used to create the current standardized amounts. For the most part, the weighted audit sample differs little from the overall set of hospitals by urban and rural status, Census Division, or bedsize (see Technical Appendix A). Further analysis needs to be done, however, before the Commission can comment on the precision with which the sample could be used to estimate costs for different groupings of hospitals.

Alternative strategies for sampling as-submitted (unaudited) and audited cost report data should also be considered. In particular, analysis is necessary to test the feasibility of developing a representative sample of PPS hospitals from the subset of hospitals with relatively early accounting year end-dates. If such a sampling method is practical, a set of unaudited cost report data could be developed much earlier in the year. The Commission intends to examine this approach, and would like to work with the Secretary in determining its feasibility.

Recommendation 13: Recalculating the Standardized Amounts

The standardized amounts used to determine hospital payments under PPS should be recalculated using cost data that reflect hospital behavior under PPS. The results of such a recalculation, with appropriate modifications, could be used in determining the update factor or in rebasing the standardized amounts.

Periodic recalculation of the standardized amounts would provide information about the relationship between hospital costs and PPS payments that could be valuable in setting future payment levels. Even though PPS was designed to break the direct link between each hospital's costs and the payments it receives from Medicare, payments on average should be reasonably related to costs. Using cost data as an input to PPS price-setting decisions does not interfere with hospital incentives to achieve greater efficiency.

The goal is not to return to cost reimbursement, but to use information about costs to maintain the PPS incentives for efficiency without adversely affecting quality of care. If average payments are much higher than average costs, Medicare may be spending more than necessary. Payments that are equal to or below costs may create financial problems for hospitals, which ultimately could affect beneficiary access to quality care. Analyzing the relationship between average costs and average payments is particularly important in the early years of PPS. Decisions about the size of the update factor have partly been based on judgments about the extent to which hospitals could increase their productivity and lower their costs. Reviewing more recent cost data is the best way to assess the accuracy of these judgments.

Some information about the relationship between costs and payments can be gleaned from indicators of the overall financial condition of hospitals, such as financial ratios and evidence of hospital closures. This information is indirect, however, since many factors other than Medicare payments might be involved. In addition, the interpretation of financial ratios is often controversial.

Once the standardized amounts are recalculated, the results can be used in two ways. Recalculated standardized amounts could be one piece of information used to select an update factor. Alternatively, the standardized amounts could be rebased—that is, the recalculated amounts could be updated and substituted for the current published rates.

The distinction between using recalculated standardized amounts in determining the update factor and using them to rebase is not as great as it may appear. Rebasing is not a complete substitute for choosing an update factor, since the recalculated payment amounts would have to be updated from the data year to the payment year. For example, the most recent cost data available to HCFA are for hospitals' first year on PPS. These data would have to be updated by as much as three years—to the end of Federal fiscal year 1987.

If the decision is made to rebase the standardized amounts, several other choices must be made. These include the frequency of rebasing and the possibility of setting a limit on how much effect rebasing could have on the standardized amounts.

A further choice involves the method used to average the standardized amounts. The current standardized amounts are hospital-weighted, so

that the resulting standardized amount represents the costs in the average hospital. An alternative method would be to discharge-weight the average, so that the standardized amounts represent the average cost of treating a case.

The redistributional effects of changing the averaging method would have to be considered. Discharge-weighting the national urban and rural amounts would result in a 3 percent increase in payments to rural hospitals and a 0.5 percent decrease in payments to urban hospitals. This result happens because there are many very small, low-cost rural hospitals with relatively few Medicare discharges that count more toward the current hospital-weighted average than they would toward a discharge-weighted average. For more information on this recommendation, see Technical Appendix A.

Recalibration

Recommendation 14: Recalibrating the DRG Weights

The DRG weights should be recalibrated annually in order to reflect the use of new technologies and other practice pattern changes affecting the relative use of hospital resources among the DRGs.

Since the PPS statute requires recalibrating the DRG weights at least every four years, the decision to recalibrate more frequently could be made on an ad hoc basis each year. The Commission believes, however, that a recalibration schedule should be set in advance so that the hospital industry can anticipate when changes in the weights will occur. Such a schedule is consistent with the prospective nature of PPS, which is designed in part to make Medicare payments more predictable for both hospitals and the Federal government.

Moreover, the Commission believes that the schedule for recalibration should be annual. Given how quickly practice pattern changes that affect relative resource use among the DRGs can occur, the four-year maximum cycle is clearly too long to keep the weights current. Even with an annual cycle, the most current patient billing data will be two years older than the year for which the weights are set (e.g., fiscal year 1985 data for fiscal year 1987 payment).

Less frequent recalibration would lead to greater changes in weights when recalibration occurs, and would also require making a greater number of interim adjustments to individual DRGs in lieu of recalibration. The Commission expects that the weights for most DRGs would not change much under annual recalibration. Large changes are possible for a few DRGs if, for example, a new medical device is being used, or many patients are being shifted to outpatient treatment.

The Commission considered the extent to which annual recalibration would pose a burden on hospitals. Frequent recalibration would require hospitals that compute their case-mix index to modify computer software to reflect the new weights. In addition, annual changes in the weights may make it more difficult for hospitals to predict their Medicare revenue. In both cases, however, the feedback from hospitals indicates that the benefits of more current relative DRG prices far outweigh any costs associated with annual recalibration.

The Commission is aware that if a recalibration is carried out for fiscal year 1987, the 1986 weights would have been in place for only six months because implementation of the weights recalibrated for fiscal year 1986 was delayed. Nevertheless, the Commission believes that the DRG weights should be based on the most recent data possible and that, despite the delay in 1986, the annual recalibration cycle should be continued for fiscal year 1987.

The Commission defines recalibration as a two-step process. First, new DRG relative weights are computed using the most recently available data. Second, the new weights are normalized (adjusted by a scaling factor) so that the average case weight after recalibration is the same as it was before recalibration. The Commission considers normalization an integral step in recalibration to ensure that recalculation of the relative weights does not affect aggregate payments to hospitals.

After recalibration, the DRG weights should be adjusted to remove any demonstrable change in reported DRG case mix that occurred during the previous fiscal year. This adjustment would ensure that changes in DRG case mix due to im-

proved coding would not be built into future PPS payments. Changes in payments due to real changes in the types of patients treated should be allowed, however, as discussed in Recommendation 3.

For this report, the Commission has incorporated a 1 percent reduction in the DRG weights to account for observed changes in the DRG case-mix index during fiscal year 1986. This figure may change as more recent data are reported. Currently, no data on DRG case-mix change for fiscal year 1986 are available. The most recent information is provided in a study by the Rand Corporation, which reports that the overall DRG case-mix index did not change from the fourth quarter of fiscal year 1984 through the second quarter of fiscal year 1985. The Commission believes, however, that while changes in the DRG case-mix index may have leveled off, it is consistent with recent experience to expect a small increase due to more accurate coding as hospitals continue to adjust to PPS. Moreover, hospitals in New York and Massachusetts would be particularly prone to coding improvement since they only recently began participating in PPS.

For fiscal year 1986, the Commission recommended recalibrating the DRG weights, using charge data alone. Prior to the beginning of fiscal year 1986, the most recently available cost data were from hospital accounting years ending during fiscal year 1982, two years before the implementation of PPS.

HCFA has attempted to collect Medicare Cost Report data for the first year of PPS in time to be used during the rulemaking process for fiscal year 1987. These cost data should be used along with the charge data from the fiscal year 1985 PATBILL data set for recalibrating the DRG weights for fiscal year 1987, if they are available. Otherwise, the charge data should be used alone. Analyses of 1981 data have shown that weights based solely on charges differ only slightly from weights based on charges adjusted for costs. Changes in charge-setting practices in recent years may lead to greater differences between the weights, but more recent data must be analyzed before reaching this conclusion. If capital is added to PPS, cost weights should reflect capital as well as operating costs.

Beneficiary Concerns

Recommendation 15: Beneficiary and Provider Information

The Secretary should take immediate action to provide more and better-written information about the Medicare prospective payment system to beneficiaries and providers of care. The Department should work with providers, beneficiaries, and associations of these groups to produce and disseminate this information. Associations of providers and beneficiaries should also increase their own efforts to better educate and inform their members about the Medicare prospective payment system.

Negative perceptions of the quality of care received under the prospective payment system are widely held and have received increasing attention. Some of these negative perceptions may not reflect the actual quality of the care received; rather, they may flow from misperceptions about PPS communicated to the beneficiary. The Commission particularly takes note of reported instances in which the average lengths of stay for the DRGs, as published in PPS regulations, have been used either implicitly or explicitly to limit a patient's hospital stay. The instances, for example, include patients being told it is time for them to leave because "their DRGs have run out." In addition, some hospital notices of noncoverage are apparently predicated on a notion that a patient's DRG length of stay limit has been reached. The Commission emphasizes that published lengths of stay for each DRG should be regarded as averages. It is inappropriate to apply them as absolute limits.

The Commission urges considerably greater educational efforts to inform beneficiaries about PPS. Although the payment system began in most hospitals during late 1983 and early 1984, it was not until the spring of 1985 that HCFA made available any general purpose information aimed at beneficiaries explaining some of the common misperceptions about the system. It was not until February 1986 that HCFA mandated that hospitals inform patients of their appeal rights with respect to discharge decisions. Even today, there is no general PPS fact sheet or information available nationally from HCFA, for either beneficiaries or providers, including physicians.

These groups badly need such information—particularly hospitals and physicians—because they are often called upon to explain the system to the beneficiaries, who have no other available information source. The Commission applauds HCFA's plans to develop such information for beneficiaries. It is not aware, however, of any plans for similar efforts to educate either hospital personnel or physicians. HCFA should make every effort to ensure that materials are widely available to both providers and beneficiaries.

In addition to an increased effort within HCFA and other appropriate HHS organizations, ProPAC also encourages other provider and beneficiary organizations to assist in this important but complex educational effort. The Commission commends efforts by groups such as the American Association of Retired Persons for the materials that they have already developed. It encourages other organizations to develop and disseminate educational materials to their members, patients, and the general public.

Recommendation 16: Notice to Beneficiaries of Rights

Beneficiaries should be made aware of the process of reconsideration and appeal of a hospital denial of coverage for continued inpatient hospital care. Notification should be through a written notice or information bulletin. It should explain beneficiary rights in a clear, helpful, and understandable manner. In addition to a clear statement of rights, the bulletin should inform beneficiaries that they should not accept any oral communication to the effect that they must leave the hospital because their "coverage" has "run out" or because there is a limit on the number of days "allowed" by Medicare for a DRG. The bulletin should be distributed at the time of admission or as soon thereafter as is appropriate based on the patient's clinical condition. However, additional avenues of distribution should also be developed.

HCFA provides, by regulation, that beneficiary coverage for continued inpatient care may be denied if a hospital determines that the beneficiary no longer requires this care. The beneficiary may appeal this denial. The hospital is not required to give such notice to a beneficiary routinely, but only when it intends to charge the beneficiary for continued stay. The PROs are responsible for monitoring the denial notices to see that they are correct and do not mislead the beneficiary or misstate the authority or responsibility of the hospital in issuing the notice.

In February 1986, HHS announced the development of a one-page summary of information describing the patient's rights. The hospital is to give this bulletin, entitled "An Important Message from Medicare," to each Medicare beneficiary upon admission. HHS developed the bulletin after careful consultation with a group of organizations representing Medicare beneficiaries and national health care provider organizations. The bulletin will fulfill the intent of this recommendation, and ProPAC commends the Secretary for the action that has been taken.

The Commission regards this bulletin as a critical first step in providing information to beneficiaries. Because it has not yet been distributed to hospitals, and its usefulness to beneficiaries is not yet known, the Commission has chosen to submit this formal recommendation. ProPAC will continue to monitor the use and usefulness of this bulletin.

Further, the Commission maintains that the Secretary should not limit distribution of the bulletin to the time of beneficiary admission. The Secretary should make every effort to distribute it at other appropriate times. Copies could be made available at offices of the Social Security Administration, for example, and in various Medicare program and Social Security Administration mailings to beneficiaries. They could also be distributed through the auspices of associations and other groups involved in health care for the elderly.

Recommendation 17: PRO Episode of Care Review

The focus of PRO quality of care review should be, to the extent possible, on the entire episode of care. The PRO's review should include, in addition to the period of hospitalization, the quality of care (and outcome) related to the overall episode of illness, including, if appropriate, skilled nursing or home health care.

A primary determinant of the quality of care administered to a hospital inpatient is the outcome

of the episode of care. Changed financial incentives under PPS, and changing patterns of care, are resulting in less frequent use of the hospital and more frequent use of skilled nursing facilities, other community facilities, and the patient's home for treatment.

The quality and level of care available to beneficiaries in these alternative settings directly influence, therefore, the outcomes of the illnesses or problems for which beneficiaries were originally hospitalized. They can directly affect the overall quality of care beneficiaries receive. The problem of premature discharge, for example, may not be insufficient hospital services, but rather inadequate clinical management of the post-acute patient.

The focus of PRO review should, therefore, be on quality of care and patient outcomes as measured over the entire spectrum of services provided—institutional and ambulatory. Quality-of-care monitoring during the course of inpatient care should be strengthened. Medical status at the time of discharge should be determined to deter and prevent premature discharges, and the availability of alternative services in the community should be determined. In addition, outcome measures such as follow-up data on patient survival and functional status should be established and applied. A pilot program of long-term review, based on an appropriate sample of beneficiaries and including outcome measures, should be instituted.

Recommendation 18: PRO Review of Outpatient Surgery

The Commission is concerned that efforts to shift surgical services from the inpatient to the outpatient setting could have an adverse impact on quality of care for certain Medicare beneficiaries. The PROs should be required to review and monitor the quality of care (and outcome) of outpatient surgery for selected patients and procedures. As a starting point, the PROs should be required to review outpatient surgery cases for those procedures that have been identified for preadmission review, including in particular a sample of those cases for which the PRO has denied payment on preadmission review.

An increasing number of surgical procedures that previously were performed on an inpatient basis are now being performed in ambulatory settings. The movement of surgical services from the inpatient to the outpatient setting has been further encouraged by HCFA policies requiring PROs to reduce admissions for procedures that could be performed in an ambulatory surgical setting. This has been accomplished through various review mechanisms, including preadmission review, random sampling for short stays, and the establishment of admission reduction objectives.

The Commission supports efforts to encourage performance of procedures in the most appropriate setting. It believes, however, that the impact of this shift on the quality of care furnished Medicare beneficiaries must be examined.

The Commission is aware that review of outpatient surgical cases is a significant expansion of the PROs' responsibilities. The PROs, however, are already required to perform preadmission review and to deny payment for procedures that could appropriately be furnished on an outpatient basis. The Commission believes that it is a reasonable next step to require the PROs to review the quality of outpatient care where payment for inpatient care has been denied. Further, since both HCFA and the PROs have developed criteria regarding procedures they deem appropriate for ambulatory settings, the cases undergoing outpatient surgery procedures established by these criteria should also be reviewed. In addition, categories of patients who may be at high risk because of outpatient surgery, such as the frail elderly, deserve special concern.

Recommendation 19: Recalculating the Inpatient Hospital Deductible

The Secretary should seek legislative change to the formula for computing the inpatient hospital deductible so that the annual increase in the deductible is more consistent with the annual per-case increase in Medicare payments to hospitals. The proportion of the costs of inpatient hospital care borne by Medicare beneficiaries has inappropriately increased as a result of significant declines in length of stay experienced since the beginning of PPS. This proportion should be lowered to its calendar year 1983 level.

Medicare beneficiaries pay a deductible for each hospital stay, unless they have already paid the deductible during a benefit period. A benefit

period, or spell of illness, begins on the first day of hospitalization and ends when the beneficiary has not been an inpatient in a hospital or a skilled nursing facility for 60 days or more.

The formula for computing the inpatient hospital deductible, currently specified by law to approximate the average cost of a hospital day, is updated annually on a calendar-year basis. For 1986 the deductible is $492, up from $400 in 1985. The HCFA actuaries have estimated that beneficiary liability will increase by about $1.1 billion as a result of this update. Although most beneficiaries have supplemental insurance coverage that pays the Medicare deductible, increases in the deductible are reflected in higher premiums for this coverage.

About half the increase in the deductible for 1986 is due to the decline in length of stay attributable to PPS incentives. The deductible calculation is based on data for calendar year 1984, when the average length of stay for the over 65 population was 9.0 days, compared to 9.7 days in 1983. In the *Federal Register* notice announcing the new deductible calculation, HCFA stated that the large increase in the deductible would probably be limited to 1986 because the decline in length of stay was expected to level off.

Data from the American Hospital Association Panel Survey indicate that length of stay for patients over age 65 declined slightly during 1985, however. This suggests that another increase in the deductible related to decreasing length of stay would occur for 1987 under the current formula. The Panel Survey reports that length of stay for the over 65 group fell from 9.0 days to 8.8 days in the first 11 months of 1985.

Although the deductible approximates the average cost of an inpatient day, it was never intended to increase as a result of shorter lengths of stay. The Senate report accompanying the original Medicare legislation stated that the deductible should ". . . keep pace with hospital costs." Further, the current regulation states that "the result of the deductible increase is that the beneficiary continues to pay about the same proportion of the hospital bill."

Savings from shorter length of stay have benefited both hospitals and the Federal government, and the Commission believes that Medicare beneficiaries should share in these gains as well. Hospitals have gained from the decline in length of stay because they keep the difference between the PPS payment and their costs for treating the Medicare patients. The Federal government has also benefited since the decline in length of stay has been one of the factors considered in limiting increases in PPS rates.

The deductible should be calculated so that the proportion of total payment per stay borne by the beneficiary is the same as it was in calendar year 1983. In this way, the increase in the deductible would reflect the increase in Medicare payments per case and would not be affected by changes in length of stay since PPS began. Medicare beneficiaries would also then benefit from reduced increases in Medicare payments to hospitals over time. ProPAC estimates that the 1983 beneficiary share of payments was about 8.5 percent. Applying this proportion to the current forecast of 1986 hospital payments would yield a 1986 deductible of $400.

A change in the deductible would also affect Medicare coinsurance. Medicare hospital inpatients pay coinsurance equal to 25 percent of the deductible for days 61 through 90 of the benefit period. After 90 days, beneficiaries can choose to draw from a lifetime reserve of 60 hospital days, which are subject to a coinsurance amount equal to 50 percent of the deductible. In addition, coinsurance on Medicare-covered days in skilled nursing facilities is equal to 12.5 percent of the inpatient hospital deductible.

It may be appropriate to reconsider the overall structure of beneficiary cost-sharing in light of PPS incentives and policies. For example, some of the patients who are required to pay coinsurance are outlier patients—those patients whose stays are sufficiently long to warrant additional payments to the hospital. The coinsurance payments in isolated cases may be equal to or greater than the outlier amount that Medicare would have paid the hospital for these days. The Commission will study issues related to restructuring beneficiary cost-sharing that are suggested by changes in hospital practice associated with the incentives of PPS.

Patient Classification and Case Mix

Recommendation 20: Improving the Measurement of Hospital Case Mix

The Commission believes that the DRG system is currently the most appropriate of the available measures of hospital case mix for the Medicare PPS and should be retained in principle as the system upon which to base Medicare payments to hospitals. Resource use varies considerably, however, within some DRGs. Therefore, the Commission intends to continue its analysis of individual DRGs and to undertake a systematic evaluation of the entire system. The goal is to identify potential problems in DRG construction and classification and to recommend changes that will improve the homogeneity within DRGs and the equity of payments across hospitals.

The Commission has previously identified potential weaknesses with the use of DRGs for prospective payment. In its April 1985 report, ProPAC outlined several areas for further analysis to improve the measurement of case mix. These areas included DRG construction and classification, heterogeneity within DRGs, and case-mix distribution across hospitals that results in inequitable payments.

The April 1986 report contains a number of analyses of specific technologies and DRGs. To date, such analyses have been on a case-by-case basis. In some instances, ProPAC has recommended reclassifying a subgroup of patients, such as those receiving penile protheses, into different DRGs. In others, the Commission has recognized the need to restructure a group of DRGs; for example, hand procedures, DRGs 228-229. The Commission has also concluded that some DRGs may be heterogeneous, but that further analysis is necessary before specific recommendations are made; DRGs 456-460, for burns, are illustrative.

ProPAC has examined three broad approaches for improving case-mix measurement. Described in the April 1985 report, these approaches were to: 1) retain the current system, but revise it in an incremental fashion as problems are revealed; 2) retain the current system in principle, but reconstruct it using a newer and more complete data base; and 3) consider an alternative case-mix measurement system, either in conjunction with DRGs or to replace DRGs.

The Commission believes that the assignment of cases into individual DRGs should continue to be monitored and updated in response to changes in medical practice, medical technologies, and diagnosis and procedure coding. The Commission will continue, therefore to evaluate the assignment of cases into specific DRGs.

Furthermore, ProPAC has concluded that additional evaluation and analysis are necessary before replacing or modifying the DRGs using an alternative case-mix system. Currently, there are no generally accepted criteria for evaluating alternative systems. In addition, a comprehensive, comparative evaluation of all the alternative case-mix systems has not yet been performed. The Commission is aware of several comparative studies that are under way. It will continue to monitor the results of these studies.

The Commission has identified problems in the DRG assignment criteria, which may produce heterogeneity within DRGs or result in an inequitable distribution of patients across hospitals. Nevertheless, ProPAC does not recommend a major reconstruction of the system at this time. Unless the assignment criteria are changed, reconstruction would not necessarily produce a more homogeneous DRG system.

In the short-term, a systematic evaluation of the DRG system can identify areas for improvement to the current system. The evaluation may identify the need for changes in DRG assignment criteria, such as alternative complications and comorbidities; modification in grouping methodology, such as combinations of diagnoses or identification of specific devices; or refinements in policies, such as outlier payments. In addition, the Commission is aware of several studies to evaluate modifications of the DRG system using additional clinical variables. It will continue to monitor the results of these studies.

Recommendation 21: Process for Maintaining and Updating ICD-9-CM

The Secretary should establish a mechanism for maintaining and updating ICD-9-CM diagnosis and procedure codes in a timely and effective manner. This process should include adequate educational support for all users.

The DRG system uses ICD-9-CM diagnosis and procedure codes to assign each Medicare hospital discharge to a specific DRG for payment purposes. In order for the DRG system to remain current and accurate as medical technologies and practices change, the ICD-9-CM coding system must be updated. However, the ICD-9-CM classification, developed almost ten years ago, is not due for a major official revision until 1993. The current timetable and process for revision will not provide users with new or revised codes in a timely and effective manner. While this lengthy revision process is necessary to meet international commitments and satisfy needs for international data compatibility, it is inadequate to address more immediate problems experienced by ICD-9-CM users in the United States.

The Commission recognizes recent efforts to accommodate the need for shorter-term revisions to the ICD-9-CM system. Especially noteworthy is the recent organization of a HCFA/National Center for Health Statistics (NCHS) ICD-9-CM Coordination and Maintenance Committee, which is composed of representatives from various Federal agencies. The committee is responsible for considering errata and addenda as well as other modifications of the ICD-9-CM to reflect new procedures and technologies, recently identified diseases, and other coding problems. It is also charged with promoting the use of Federal and non-Federal educational programs and other communication techniques to standardize coding applications and upgrade the quality of coded medical data.

The ICD-9-CM Coordination and Maintenance Committee has begun to address some of the same coding issues the Commission has studied. The committee's recommendations on proposed coding changes for fiscal year 1987 are expected to be published in the *Federal Register*. ProPAC supports the committee's efforts to effect revisions or modifications to the ICD-9-CM as soon as possible. The Commission recommends that such changes be made to coincide with Grouper changes.

The Commission is concerned, however, that the committee has not publicly identified the specific procedures and processes it will follow. The committee currently plans to consider, on an ad hoc basis, coding changes requested by members and other interested parties, such as industry representatives. The committee's decisions regarding modifications to the ICD-9-CM must be formally accepted and issued, however, by NCHS and HCFA.

It is unclear whether the committee can and will have revisions or modifications available for use in a timely manner. Further, there is no clear relationship between this committee and the AHA central coding office concerning ICD-9-CM. The Commission also questions the lack of representation on the committee of non-Federal users of ICD-9-CM, and the extent to which the committee will be able to resolve disputes about the use of existing codes.

The Commission believes that the need for accurate timely coding decisions is vital to PPS. It is concerned that the committee will be unable to carry out its many responsibilities in a timely and effective manner. ProPAC is further concerned that the committee will be unable to provide it with advice soon enough for the Commission to carry out its responsibilities to consult with the Secretary before rulemaking. If this process does not ensure timely and effective changes, the Commission recommends adopting an alternative mechanism expeditiously.

The Commission also recommends that appropriate educational material for users accompany all revisions or modifications to ICD-9-CM. Such educational support is necessary to ensure the dissemination of revision notification and to help ensure consistency in code assignments.

Recommendation 22: Process for Interpretation and Assignment of Existing Codes

The Secretary should ensure that interpretation and assignment of existing ICD-9-CM diagnosis and procedure codes for payment purposes strictly adhere to coding rules and guidelines. In order to maintain the integrity and uniformity of the coding system while allowing flexibility for payment purposes, the process for interpretation and assignment of existing ICD-9-CM codes should be assigned to one authorized group.

The Commission recognizes that it is important to maintain the integrity and uniformity of the ICD-9-CM coding system. At the same time, the system must provide a consistent mechanism for data reporting for Federal users and others. The system must also be flexible enough to be used by Medicare for payment purposes. Coding decisions related to payment should not violate coding rules and guidelines.

Decisions related to the interpretation and assignment of existing codes are critical for all the purposes for which codes are used. Besides maintaining and updating ICD-9-CM diagnosis and procedure codes discussed in Recommendation 21, there is a continuing need for interpreting and assigning existing codes. The AHA has performed this service since the mid-1960s under contract with NCHS. NCHS, HCFA, and the American Medical Record Association (AMRA) must concur with all of AHA's decisions. However, other groups, such as commercial abstracting services, also make coding decisions and provide coding information. This may have led to the dissemination of conflicting coding advice.

The expanded use of ICD-9-CM for payment intensifies the need for a central authorized source to address concerns about coding. The overlapping activities of AHA's central coding office, the HCFA/NCHS ICD-9-CM committee, and other groups should be clarified; the responsibilities of each group should be clearly defined. The designated group should also be responsible for providing official endorsement of coding manuals. A number of written coding references now exist without any official authorization.

Recommendation 23: Interim Mechanism for Coding Problems

The Secretary should establish an interim mechanism to allow early identification of new technologies, procedures, and diagnoses and more appropriate DRG assignment when ICD-9-CM codes cannot be updated in a timely manner.

The Commission's experience with coding problems, including inadequate coding of new and changing technologies and procedures, has illustrated the deficiencies and rigidities inherent in the current ICD-9-CM coding system. Besides the long-term improvements proposed in Recommendations 21 and 22, the Commission thinks a rapid, responsive interim mechanism is necessary to permit early identification of new technologies, procedures, and diagnoses. Such a mechanism would allow more flexibility—and therefore more appropriate DRG assignment—as problems are identified. The mechanism could also be used at times independent of changes in Medicare coverage policy or changes in the Grouper program. Such a mechanism would also facilitate the earlier collection of specific data needed when payment or policy changes are considered or implemented.

The interim mechanism selected should be significantly different from the ICD-9-CM format and codes to avoid confusion both while the interim mechanism is in use and again after a permanent ICD-9-CM code is assigned. It is anticipated that interim mechanisms would be utilized only until appropriate permanent ICD-9-CM codes could be established.

DRG Classification and Weighting Factors

Recommendation 24: Adjustment of the Labor Portion of the Standardized Amounts for Some DRGs Involving Expensive Devices

The labor and nonlabor portions of the standardized amounts should be redefined for DRGs 39, 104, 105, 209, 471, and the newly defined DRGs for pacemaker implantation and replacement (Recommendations 25 and 26), implantable defibrillators (Recommendation 27), and penile prostheses (Recommendation 28). The new portions should more closely reflect the labor-related and nonlabor-related shares of costs for cases in each of these DRGs. These recalculations should be made so that total hospital payments remain unchanged.

The correct labor and nonlabor portions of the standardized amounts should be calculated from data currently being generated in the HCFA study of the labor portion of costs by DRG. If this information proves to be incomplete, the portions should be calculated from available cost and charge data for these DRGs. The Secretary should study the need for adjustments to the labor and nonlabor portions of the standardized amounts in all DRGs.

PPS currently adjusts individual hospital payments to reflect differences in area wage rates. This adjustment is applied equally to all cases in all DRGs and is based on labor-related costs of approximately 80 percent in the average discharge.

Hospital cases involving expensive devices are atypical. The devices are usually sold in a national market, resulting—in these cases—in a higher proportion of costs that are unrelated to local wage rates. Hospitals in high wage rate areas therefore receive a significantly higher payment, relative to cost, for cases in these DRGs when compared to hospitals with lower wage rates. ProPAC has studied this payment inequity in the 36 DRGs with the greatest number of cases involving expensive devices. The financial effect is most significant in DRGs with the highest proportion of cases involving expensive devices and with a ratio of supply costs to total costs of approximately 20 percent or more. These include DRGs 39, 104, 105, 209, 471, and the newly defined DRGs for cases involving pacemaker implantation and replacement (Recommendations 25 and 26), implantable defibrillators (Recommendation 27), and penile prostheses (Recommendation 28).

The payment inequity can be corrected if the labor and nonlabor portions of the standardized amounts are redefined for each of the DRGs mentioned above. It is important, however, that this change not affect total hospital payments. Therefore, after all DRG weights are recalibrated in a standard manner, the weights for the device DRGs should be recalculated (using the new labor-related portion for standardizing charges). This recalculation would offset the effect of changing the labor and nonlabor portions of the standardized amounts.

The new labor and nonlabor portions of the standardized amounts should be calculated from data currently being developed in HCFA's study of the labor portion of costs by DRG. If this new information is incomplete or unavailable in time for this recommendation to be implemented, the portions of the standardized amounts should be calculated from available cost and charge data. ProPAC will furnish the Secretary with the information it used to develop this recommendation.

Although the inequities of the area wage index adjustment are most important in cases involving expensive devices, there may be a similar problem in many more DRGs. In addition, the average labor-related share of costs for all discharges, which HCFA estimates at roughly 80 percent, may have changed significantly with declining length of stay and hospital responsiveness to PPS incentives. The Secretary should, therefore, complete the congressionally mandated analysis of the impact of the area wage index adjustment as soon as possible, ensuring that these issues are thoroughly addressed. For more information on this recommendation, see Technical Appendix B.

Recommendation 25: Reclassification of Pacemaker Cases Based on Type of Device

Prior to recalibration, the DRGs involving implantation of cardiac pacemakers (currently DRGs 115 through 118) should each be restructured into two DRGs, one for cases involving dual-chamber or functionally similar pacemakers, and one for cases receiving other single-chamber pacemakers. New ICD-9-CM procedure codes should be created to distinguish between these types of cases. A mechanism should be established to evaluate the appropriateness of all implants involving dual-chamber or functionally similar pacemakers. In the initial year of this new classification, the weights for all pacemaker DRGs should be calculated using charge data from the PATBILL file and data on cost differences between pacemaker types.

Under PPS, a hospital receives the same DRG payment regardless of the type or model of pacemaker implanted. The implantation of a dual-chamber cardiac pacemaker, however, differs significantly from the implantation of a single-chamber model in at least two ways. First, use of a dual-chamber model leads to greater hospital costs. This difference in costs is due to a number of factors, including the cost of the device, the need for a second cardiac lead, and the longer operative time required for implantation. The Commission estimates that in 1984 a dual-chamber pacemaker and the extra lead cost an additional $1,736 over single-chamber implants.

Second, some patients requiring dual-chamber pacemakers are clinically distinct from other pacemaker patients. Although expert physicians differ in their judgments about certain indications

for dual-chamber pacing, there are some universally accepted criteria. The patients meeting these criteria are therefore clinically distinct from other pacemaker patients. To retain the clinical coherence of the pacemaker DRGs, cases involving dual-chamber pacemakers should be classified into separate DRGs.

The Commission would have preferred to recommend a revised classification based on patient characteristics rather than on the therapy provided. Unfortunately, the accepted criteria for implantation of dual-chamber pacemakers cannot all be described with specific diagnostic labels. Therefore, until such diagnoses and related codes are identified, classification must be based on the type of pacemaker implanted. Although current ICD-9-CM codes are inadequate to distinguish between types of pacemaker models, new codes should be developed in time for implementation of this recommendation by October 1, 1986.

The Commission recognizes that this recommendation will likely lead to increased use of dual-chamber pacemakers. Failure to reclassify pacemaker discharges based on type of device, however, could result in limiting the access of Medicare beneficiaries to this important technology. The Secretary can restrain the inappropriate use of the more expensive pacemakers by developing a mechanism to evaluate all implants involving dual-chamber or functionally similar pacemakers. In addition, ProPAC plans to follow closely the issues surrounding cardiac pacing and especially the further refinement of clinical criteria for implantation of different types of pacemakers. The Commission will review the subject completely within the next three years as necessary.

The Commission understands that some single-chamber pacemaker models now undergoing clinical investigation may be functionally similar to dual-chamber pacemakers. That is, in some cases, these new single-chamber pacemakers could substitute for the more expensive dual-chamber models. Because ProPAC does not wish to inhibit the development of such alternative technologies, the Secretary should consider classifying new pacemaker models into DRGs based on both device function and cost.

Since current ICD-9-CM codes are inadequate to distinguish among pacemaker models, calculation of the initial weights for these new pacemaker DRGs cannot be based entirely on currently existing Medicare data bases. During the first year this policy is in effect, the Secretary should calculate weights based on relative charges or costs in the pacemaker DRGs and the difference between dual-chamber and single-chamber implants, which ProPAC estimates to be about $1,740. For more information on this recommendation, see Technical Appendix B.

Recommendation 26: Reclassification of Pacemaker Replacement Cases

Prior to recalibration, the cases involving replacement of a permanent cardiac pacemaker, except those with myocardial infarction, congestive heart failure or shock, should be reassigned to DRGs that include only pacemaker replacements.

Data from the 1984 PATBILL indicate that, on average, cases involving pacemaker replacement use fewer hospital resources than cases undergoing initial implant, but more resources than cases involving revision without replacement. The only exception to this finding is for patients with myocardial infarction, congestive heart failure, or shock. The costs of pacemaker replacement for these patients are similar to the costs of initial implantation.

Despite these important distinctions, the Grouper program is not consistent in classifying these replacement discharges. A case with pulse generator replacement only (i.e., no change in pacemaker leads) is generally classified into DRG 118, and a replacement that also involves a lead change is generally classified into DRG 117. Either kind of replacement, however, can be grouped into the higher-paying DRG 116 if the hospital uses certain ICD-9-CM procedure codes. Finally, any pacemaker case (initial implant or replacement) in a patient with congestive heart failure, myocardial infarction, or shock is classified into DRG 115.

This inconsistency in classification of pacemaker replacements has led to substantial pay-

ment inequities across hospitals. One hospital, for example, may be paid significantly more for a case than another hospital providing a similar patient with a similar service. The Commission strongly believes that this error should be corrected. The Secretary should develop specific coding guidelines for cases involving replacement and change the Grouper program to classify these cases into distinct DRGs.

It is important, however, that these changes be combined with those proposed in Recommendation 25. There is significant variability in the resources used in replacement cases. Patients can have a single-chamber model replaced with another single-chamber model, a dual-chamber model replaced with another dual-chamber model, or a single-chamber model replaced with a dual-chamber model and its additional cardiac lead. This variation among replacement cases can most appropriately be reduced by classifying DRGs based on pacemaker type.

Recommendations 25 and 26, combined, lead to seven newly defined DRGs for pacemakers. They are summarized below. For more information on this recommendation, see Technical Appendix B.

Description of the Proposed New Pacemaker DRGs Based on Recommendations 25 and 26

- Initial implantation or replacement of a dual-chamber or functionally similar cardiac pacemaker in a patient with myocardial infarction, congestive heart failure, or shock.
- Initial implantation or replacement of other cardiac pacemaker in a patient with myocardial infarction, congestive heart failure, or shock.
- Initial implantation of a dual-chamber or functionally similar cardiac pacemaker in a patient without myocardial infarction, congestive heart failure, or shock.
- Initial implantation of other cardiac pacemaker in a patient without myocardial infarction, congestive heart failure, or shock.
- Replacement of cardiac pacemaker with a dual-chamber or functionally similar cardiac pacemaker in a patient without myocardial infarction, congestive heart failure, or shock.
- Replacement of cardiac pacemaker with other cardiac pacemaker in a patient without myocardial infarction, congestive heart failure, or shock.
- Permanent cardiac pacemaker system revision except replacement.

Recommendation 27: Implantable Defibrillator

Implantable defibrillator cases should be assigned to a unique DRG. The labor and nonlabor portions of the standardized amounts should be redefined for this new DRG to reflect the labor-related and nonlabor-related shares of costs for these cases.

The implantable defibrillator is a new medical device used in the treatment of some life-threatening ventricular arrhythmias. Discharges involving the implantation of this device are now a covered Medicare service and have been assigned to DRG 104 (cardiac valve procedure with pump and with cardiac catheterization).

The Commission believes that implantable defibrillator cases should be assigned to a unique DRG. The diagnoses and procedures for these cases are unlike those of discharges in other DRGs. More importantly, the costs of the defibrillator cases are themselves unique: more than 50 percent of the total costs are due to the device. To avoid significant payment inequities across hospitals in such cases, the labor and nonlabor portions of the standardized amounts should be redefined to reflect the labor-related and nonlabor-related shares of costs (see Recommendation 24). This can be accomplished only if the defibrillator cases are assigned to a unique DRG. The weight for the DRG should be calculated from available data so that hospital payments approximate costs.

The implantable defibrillator is a new technology that is undergoing rapid change. As the device becomes more widely used, additional adjustments to DRG classification may be required for cases involving percutaneous implantation of the device and lead, replacement of a device, or the revision or removal of an existing device or

lead. It will be important that new ICD-9-CM codes currently under consideration allow differentiation and monitoring of these cases. For more information on this recommendation, see Technical Appendix B.

Recommendation 28: Penile Prostheses

Prior to recalibration, cases involving the implantation of a penile prosthesis should be removed from DRG 341 and reassigned to a unique DRG. The labor and nonlabor portions of the standardized amounts should be redefined for this new DRG to reflect the labor-related and nonlabor-related shares of costs for these cases.

The cases in DRG 341 (penis procedures) involving implantation of a penile prosthesis should be reclassified into a unique DRG for several reasons. First, as currently defined, DRG 341 is not clinically coherent. Although all the patients undergo an operation related to the penis, many of the procedures are quite distinct from one another and are performed for markedly different medical indications.

Second, penile prosthesis cases utilize significantly greater hospital resources than other cases in the same DRG. The difference in charges, estimated from the 1984 PATBILL at about 35 percent, is due largely to the cost of the prosthesis. Such a large difference was probably not recognized during the development of the DRGs. Hospital resources were originally measured using length of stay whereas these cases have high costs despite short lengths of stay.

Third, as discussed in detail under Recommendation 24, the high nonlabor costs in the prosthesis cases result in payment inequities across hospitals. To avoid these inequities, cases with expensive devices should not be classified with non-device cases. In addition, the labor and nonlabor portions of the standardized amounts should be redefined to reflect the high nonlabor costs of the device. For more information on this recommendation, see Technical Appendix B.

Recommendation 29: Additional Payment for Magnetic Resonance Imaging

For a period of three years, Medicare should pay hospitals an additional amount (hereafter termed an add-on) for each covered magnetic resonance imaging (MRI) scan performed on an inpatient Medicare beneficiary in a PPS hospital. Under existing capital payment policy, the add-on for fiscal year 1987 should be $124 for each scan performed on beneficiaries in institutions where Medicare pays for the capital costs of an MRI scanner and $282 for each scan performed on beneficiaries in other PPS hospitals. In fiscal year 1988 and fiscal year 1989, the add-on amounts for all hospitals should be recalculated to reflect any change in the average cost of an efficiently produced scan and any changes in capital payment policy.

Magnetic resonance imaging is an important new diagnostic technology that has been approved for marketing by the Food and Drug Administration (FDA) for imaging the internal structure of the head and body. It has proven efficacy in a number of medical conditions and has tremendous potential for use in many more areas.

ProPAC believes that an alternative payment mechanism is necessary for MRI for several reasons. First, although MRI has recently become a covered service for most indications in Medicare beneficiaries, hospital payments have not been increased to reflect the additional costs of using the technology.

Second, while the increased costs of new technologies such as MRI will automatically be reflected in the DRG weights in subsequent years through recalibration, this process will also increase payments for cases in which no MRI scan is performed. Since MRI scanners are currently available to only a small number of hospitals, this averaging effect will tend to underpay hospitals utilizing MRI and overpay those not using the technology. This inequity may discourage hospitals from providing MRI scans.

Finally, ProPAC is concerned that the incentives inherent in current payment policy may result in an inappropriate distribution of MRI scanners. Approximately 50 percent of the scanners in this country are located outside of hospitals in a variety of outpatient settings. This distribution is atypical of most expensive medical technologies and has likely occurred due to a number of factors. These include delays in coverage by many third-party payers, certificate-of-need requirements, the incentives under PPS, and characteristics of the technology itself.

The recent Medicare decisions to cover MRI scanning, reimbursing for each outpatient scan but not increasing inpatient payments, may inappropriately encourage scanning to be performed on an outpatient basis. Under current policy, these outpatient scans are reimbursed through Medicare Part B, with the beneficiary responsible for a 20 percent copayment. ProPAC believes that an additional payment for inpatient MRI scans will encourage hospitals to perform the scan as part of an inpatient hospital stay when it is more appropriate to do so.

The add-on would be paid to the hospital where the beneficiary is an inpatient. This policy encourages the hospital to provide scans in the most cost-effective manner. The proposed add-on amounts are estimates of the average cost of a scan at an efficiently run facility, adjusted for the degree to which MRI may substitute for other hospital resources. The Commission believes that the amount of the add-on should not bias a hospital's decision about whether to purchase an MRI scanner or to obtain scanning services from another provider. Thus, since institutions that own scanners receive an additional payment for the capital related costs of MRI, a higher add-on amount is provided for hospitals that do not own scanners.

With this approach, the total payment per scan for both types of institutions would include capital as well as operating costs. Furthermore, the add-on to either type of hospital should be adjusted over the next three years to reflect changes in the average costs of efficient scanning and any changes in capital payment policy. At the end of three years, the Commission will reevaluate the adequacy of PPS payments for MRI and the need for continuing an add-on.

In Recommendation 5, ProPAC proposes that the Secretary initiate a transition to all-inclusive prospective prices that combine operating and capital cost components in a single prospective payment per case. The exact timing and nature of any future changes in capital payment policy are not yet clear, however. If capital has not been included in PPS within three years, the Commission will consider the desirability of a single add-on payment for all hospitals and the exclusion of cost-based capital payments for MRI.

The Commission strongly believes that this add-on payment should not lead to an increase in total Medicare payments beyond that calculated for the scientific and technological advancement component of the discretionary adjustment factor (Recommendation 2). Targeted payment adjustments of this type should be offset in the DAF so that the total amount allowed remains unchanged by the add-on payment. When the appropriate data become available, the Commission will also recommend adjustments in DRG weights to account for the add-on. This should not be a significant problem in the interim, however, because MRI scans are performed in relatively few cases.

ProPAC recognizes that this recommendation departs from the concept of a single payment per discharge regardless of the resources used during the admission. The importance of MRI, however, and the potentially serious consequences of not providing the appropriate financial incentives for this technology have led the Commission to its decision. For more information on this recommendation, see Technical Appendix B.

Recommendation 30: Extracorporeal Shock Wave Lithotripsy

Prior to recalibration, cases in which extracorporeal shock wave lithotripsy (ESWL) is the principal procedure should temporarily be removed from DRG 324 and reassigned to DRG 323. The payments and costs for all cases in this DRG should be monitored to determine the appropriateness of PPS payments for operating costs. A unique procedure code should be identified for ESWL.

Extracorporeal shock wave lithotripsy is a new, noninvasive technology that uses shock waves to remove urinary tract stones. When DRGs were initially developed, ESWL was not a covered service for Medicare beneficiaries. In 1985, ESWL was covered and the cases were assigned to the medical DRGs 323 (urinary stones, age >69 and/or CC) and 324 (urinary stones, age <70 w/o CC).

The Commission examined data on ESWL costs, charges, and utilization rates from many different sources and concluded that payments for DRG 324 are inappropriately low. Payments for ESWL cases in DRG 323 more closely reflect operating costs. Neither clinical nor financial data were

found to justify splitting ESWL cases based on age, complications, or comorbidities. The newly defined DRGs could have the following proposed title changes:

DRG 323 Lithotripsy or urinary stones, age >69 and/or CC, and
DRG 324 Urinary stones, age <70 w/o CC, w/o lithotripsy.

While classification in DRG 323 results in the most appropriate payments for these cases, the average cost of treating a patient with ESWL is extremely sensitive to the number of procedures performed. The cost data used in the ProPAC analysis reflect, on average, a relatively low volume of cases in institutions with lithotripters. As hospitals utilize their equipment more efficiently, costs per case are likely to decrease. The Commission, therefore, recommends continued monitoring of ESWL procedure costs and other routine and ancillary hospital service charges over the next year.

ESWL does not have a unique ICD-9-CM procedure code. Cases involving ESWL are distinguished from cases undergoing other kinds of lithotripsy by combinations of two procedure codes. The Commission recommends establishing a unique code for ESWL so that these procedures can be monitored more accurately in the future. For more information on this recommendation, see Technical Appendix B.

Recommendation 31: Lymphomas and Leukemias

Prior to recalibration, cases currently assigned to DRGs involving lymphoma, leukemia, and other related diagnoses (DRGs 400-404) should be reclassified into one of five newly defined DRGs. The new classification should provide a unique DRG for acute leukemia cases not involving a major operative procedure, eliminate age as a criterion for DRG assignment, and modify present classification based on operative procedure, complications and comorbidity. Other ways of further improving these DRGs should continue to be explored.

The current lymphoma/leukemia DRGs (400-404) are very heterogeneous in terms of resource consumption. This is evident not only from public comment but also from high coefficients of variation obtained when studying charges and costs.

Alternative ways of grouping these cases have been considered in depth. Principal diagnosis, age, major and other operating room procedures, complications/comorbidity, and discharge status have been studied. Based on a number of considerations, including the intent and design of PPS and the amount of within-DRG heterogeneity that can be reduced, the Commission believes lymphoma and leukemia patients should be classified into the following groups:

DRG 400 Lymphoma/leukemia with major operating room procedure,
DRG 401 Acute leukemia without major operating room procedure,
DRG 402 Lymphoma/non-acute leukemia with other operating room procedure and complication/comorbidity,
DRG 403 Lymphoma/non-acute leukemia with other operating room procedure or complication/comorbidity, and
DRG 404 Lymphoma/non-acute leukemia without operating room procedure or complication/comorbidity.

The proposed DRGs would be an improvement over the current DRG classification in reducing heterogeneity. Cases in these DRGs should be monitored to determine if additional adjustments will be necessary. Other methods for improving these DRGs should continue to be studied. For more information on this recommendation, see Technical Appendix B.

Recommendation 32: Upper Extremity Procedures

Prior to recalibration, cases involving procedures of the upper extremity that are currently classified in DRGs 223, 224, 228, and 229 should be reassigned based on anatomical location and the presence of systemic collagen vascular disease or implantation of joint prostheses or complications and/or comorbidities. Nonsurgical hip fracture cases currently being assigned to DRGs 223, 224, 225, 228, and 229 should be reassigned to the appropriate medical DRG.

The current classification of cases in DRGs 223, 224, 228, and 229 fails to distinguish adequately between groups of cases with markedly different resource use according to meaningful clinical criteria.

The Commission studied many alternative groupings of these cases, using combinations of selected principal diagnoses, specific procedures, age, and complications. Based on a number of considerations, including the intent and design of PPS and the amount of within-DRG heterogeneity that can be reduced, the Commission believes patients with upper extremity procedures should be reclassified into the following groups:

DRG 223 Upper extremity procedure except humerus and hand; with joint prosthesis or complications and/or comorbidities,
DRG 224 Upper extremity procedure except humerus and hand; w/o joint prosthesis or complications and/or comorbidities,
DRG 228 Hand procedure; with joint prosthesis or collagen vascular disease or complications and/or comorbidities, and
DRG 229 Hand procedure; w/o joint prosthesis or collagen vascular disease or complications and/or comorbidities.

Currently, patients with the principal diagnosis of hip fracture who are treated medically but who also undergo a procedure on the upper extremity or foot are classified into DRGs 223, 224, 225, 228, or 229 based upon the procedure. The Grouper should be changed to assign these cases to the appropriate DRG for nonsurgical hip fractures. For more information on this recommendation, see Technical Appendix B.

Data Development and Research

Recommendation 33: Maintaining a Commitment to Data Development and Research on PPS

The Secretary should continue to devote substantial resources to data development and research for monitoring and improving PPS and understanding its effects on the health care system. Studies mandated by the Congress that are already due should be completed and made public as soon as possible, and new studies that analyze more recent data should be designed and implemented as soon as possible. While ProPAC and other organizations will participate in this process, the major commitment to PPS data development and research must reside in the Department of Health and Human Services.

For the foreseeable future, continued data development and research should be viewed as an intrinsic part of PPS. While new policy directions may require major investments in data collection and analysis, such investments should not displace needed further data development and research on PPS.

The Commission has identified a number of areas in which current data and analysis are sorely needed both for understanding the consequences of PPS and for the development of solutions to problems. A prime example is to determine the effects of PPS on the quality of care received by Medicare beneficiaries. Most of the research to date has been done with data that includes only a short period of time corresponding to hospital payment under PPS. Moreover, because the transition to Federal payments under PPS is incomplete, data collection and research must continue until the full effect of a completely phased-in system can be assessed.

It would be contrary to Medicare beneficiaries' interests to reduce the commitment to understanding PPS at a time when the potential for achieving this understanding is increasing. The Commission will continue to devote its resources to data development and research on PPS issues. It welcomes the opportunity to work with the Secretary on plans for the HHS agenda. The Commission will continue to make public the results of its research and hopes that the Secretary will also continue to share the results of HHS research.

Chapter 3

Analytic Plans for Improving the Prospective Payment System

Chapter 3

Analytic Plans for Improving the Prospective Payment System

This chapter summarizes the Commission's immediate and long-term analytic plans to improve the prospective payment system. These plans reflect a continuation and expansion of the studies supporting the recommendations presented in Chapter 2.

Improving and updating PPS are essential to make prospective payment an equitable system that enables hospitals to continue to deliver high-quality care in a cost-effective manner. Thus, through its analytic agenda, the Commission will identify and analyze problems and recommend improvements in current methods of DRG classification, case-mix measurement, and calculation of payment amounts. These improvements are necessary to ensure equitable payments to hospitals and to reflect changes in medical technology and practice patterns.

In some cases, the recommendations made this year called for temporary adjustments. Although it would have been desirable to propose permanent adjustments, the lack of current data as well as changes in medical practice since PPS implementation prevented this. The Commission intends to continue to monitor changes in medical practice and to collect and analyze additional data in order to recommend more permanent adjustments in the future.

The delivery of high-quality care in a cost-effective manner is one of ProPAC's chief priorities. While the Commission believes that implementation of PPS has so far been successful, some incidents have been reported that require particular attention to monitoring and measuring quality of care. The thrust of much of ProPAC's analytic work is designed to study this key area.

The first section of this chapter describes analyses aimed at improving DRG classification and case-mix measurement. Some of the issues discussed in this section emerge as cross-cutting problems between case-mix measurement and the establishment of payment amounts. The second section discusses methods to improve and update the payment amounts. The final section presents an overview of the Commission's strategy for research related specifically to quality of care and other beneficiary concerns.

IMPROVING DRG CLASSIFICATION AND CASE-MIX MEASUREMENT

In the April 1985 report, the Commission outlined problems related to the DRG patient classification system as it is used to measure hospital case mix. Three broad approaches for improving case-mix measurement were suggested:

- Retaining the current system but revising it incrementally as problems emerge,
- Retaining the system in principle but reconstructing it using newer, more complete data bases, and
- Considering an alternative system, either in conjunction with DRGs or to replace DRGs.

Based on the work undertaken since the April 1985 report, ProPAC has recommended retaining the current DRG system for the present along with making several incremental modifications and improvements to the system. The analyses completed by the Commission and others, however, have demonstrated that resource use varies considerably within some DRGs. The causes of the variations are complex and need to be better understood before recommending a major restructuring of the DRGs. To this end, the Commission has developed an analytic plan for systematically evaluating the heterogeneity of the DRGs. This evaluation will provide empirical evidence for

evaluating the principles of case-mix measurement.

Because of substantial differences in case complexity observed within individual DRGs, alternative case-mix measurement systems—especially those focusing on severity-of-illness measures—have gained considerable attention as a possible method for improving or replacing DRGs. While understanding of the complexities and deficiencies of the current system is increasing, much remains to be learned about the advantages and disadvantages of alternative systems. Currently, generally accepted criteria for evaluating these systems are nonexistent. Further, a comprehensive, comparative evaluation of DRGs as well as alternative case-mix systems has not yet been performed.

The Commission's analytic plans to improve the measurement of case mix will continue to follow the same approaches mentioned above. The major study areas are summarized here and discussed more fully in the rest of this section.

- Analysis and evaluation of new and changing technologies and practice patterns will continue. Incremental improvements to the current DRGs will be developed that reflect the results of these studies.
- The current studies of heterogeneity and case complexity for specific DRGs and groups of DRGs will continue. Further studies will expand the scope to a broader examination of all DRGs. Specifically, these studies will examine the adequacy and appropriateness of existing and alternative DRG assignment criteria. They will be designed to identify areas to improve DRG homogeneity and better account for case complexity and severity of illness.
- The analyses of specific DRGs and groups of DRGs have pointed to additional topics that will require further study. These topics relate to the measurement of case mix as well as the calculation of the payment amounts and include:
  —Outlier payment policy,
  —Geographic variations in resource use,
  —High device costs and the labor/nonlabor portions of the payment amounts,
  —Allocation of nursing costs, and
  —Transfers and readmissions.
- Monitoring the development and comparative evaluation of alternative case-mix measurement systems will continue.

Technologies and Practice Patterns

The Commission and many others have been concerned about the need to incorporate new technologies and medical advances into the system. Part of ProPAC's resources have been and will be devoted to recommending appropriate adjustments in DRG classifications and weights in order to incorporate new technologies as they become Medicare-covered services. The Commission will also examine the need for adjustments to reflect changes in the use of existing technologies or changes in practice patterns. It will recommend improvements on an incremental basis when necessary.

The Commission is pleased that the Secretary has implemented procedures for making changes to the DRG classifications. Under these procedures, most changes will be made when annual PPS regulations are promulgated. Some new technologies will become covered services at other times, however, and the Commission will consult with HCFA on issues related to DRG assignment as these technologies are covered by Medicare.

Incorporating new technologies and practices into PPS may be difficult. The Commission recognizes that there are unique problems for new technologies that are expensive but enhance quality of care. The Commission is concerned about the mechanisms for providing timely and appropriate payments (e.g., recalibration and reclassification). These mechanisms may not always provide the appropriate incentives for the development, adoption, and diffusion of new technologies. Likewise, the Commission wishes to avoid financial incentives that result in the adoption of technologies that are unproven or unnecessary for the efficient delivery of high quality care.

Based on its evaluation of two new and costly technologies, ESWL and MRI, the Commission recommended two very different adjustments to the system: a reclassification of patients undergoing ESWL and an add-on payment for patients undergoing MRI scanning. The Commission will continue to address the special problems associated with costly new medical technologies on a case-by-case basis, recognizing that solutions may vary significantly depending on the technology.

The Commission will focus on improvements using existing payment policies, such as reweighting or "pricing" of certain DRGs. It is likely, as is the case for ESWL and MRI, that adjustments will be recommended on a temporary basis or for an interim period. This will permit the development of better data bases for accurately measuring costs and efficiency changes as technologies diffuse. ProPAC will continue monitoring these technologies as they are incorporated in medical practice.

While the financial incentives under PPS may adversely affect the development, adoption, and diffusion of costly new technologies, the objective evidence available to document such effects is limited. The Commission will monitor studies being conducted by other organizations and consider implementing a study to evaluate the effects of PPS in this area.

Improvements in the DRG system to incorporate changes in medical technologies and practice patterns, as well as general improvements in DRG homogeneity, must be achieved within the constraints of the current ICD-9-CM coding system for procedures and diagnoses. For some technologies or practices, new codes will need to be developed. In other instances, administrative mechanisms to identify specific procedures or conditions in the absence of an appropriate code will need to be devised. The Commission has made several recommendations this year regarding maintenance and updates to the ICD-9-CM system for payment purposes. ProPAC will continue to monitor changes in the coding system, recommending improvements that are necessary to keep the system up to date.

The availability of data bases for accurately pricing new technologies and services is a critical need for determining appropriate weights for new technologies. Typically, manufacturers are the only sources of data. These data bases provide limited information. The Commission has found it necessary in some cases, such as ESWL, to make temporary recommendations while monitoring the use of the technology and gathering additional data. In other cases, such as burn DRGs, the Commission has withheld recommendations until better data become available. ProPAC will continue to monitor the development of data for these technologies and use new data sources as they become available.

Heterogeneity

The Commission has identified significant heterogeneity problems in the DRG system as a result of its examination of classification problems for specific DRGs or groups of DRGs. Heterogeneity is a source of concern because of its association with payment inequities. (Heterogeneity is defined as the degree of dissimilarity among cases within a patient category.) These case-by-case analyses, prompted by concerns that case complexity varies widely within certain DRGs, have led the Commission to recommend structural changes in some DRGs. These include DRGs for lymphomas and leukemias, as well as DRGs involving upper extremity procedures. These case examples of heterogeneity reflect the inability of DRGs to capture differences in case complexity that may be due to: inadequate measures of complications and/or comorbidities; lack of specificity in operating room procedures performed; or other underlying problems with the DRG assignment criteria.

ProPAC will continue to examine the causes of heterogeneity and to develop recommendations for improvements to the DRG system on two levels. On a general level, the DRGs will be systematically evaluated to determine the global changes in the DRG assignment criteria necessary to increase the homogeneity of the DRG system. The Commission will also continue to study individual DRGs or groups of DRGs on a case-by-case basis and recommend improvements. In its efforts to improve the DRG system, the Commission will focus on the following heterogeneity issues.

DRG Assignment Criteria

The analyses completed to date have provided evidence of variation in case complexity within DRGs. Much of this variation can be linked to inadequacies in the underlying principles, or assignment criteria, of the DRG system.

Complications and/or Comorbidities.—The use of complications and/or comorbidities (CCs)—particularly the sequence or combination of one or more diagnoses—needs to be carefully reviewed. Currently, one list of complications and/or comorbidities applies to all DRGs. These are not specific to DRGs or Major Diagnostic Categories (MDCs). Payment may not reflect the resources required to treat specific complications and/or comorbidities. Preliminary evidence from ProPAC analyses suggests that modifying the use of complications and/or comorbidities in DRG assignment may reduce heterogeneity within some DRGs. Creating DRG- or MDC-specific lists on the basis of resource intensity is a possible approach to DRG improvement.

Patient Age.—Patient age is used in a number of DRGs for assignment. As an assignment criterion, age is typically used in conjunction with the presence of a complication and/or comorbidity (e.g., "Age >69 and/or CC"). Some researchers have argued that to reduce DRG heterogeneity, other age splits may be more appropriate to identify older patients (e.g., persons who are at least 80 years of age), who are presumably sicker. Preliminary analyses of heterogeneity within DRGs indicate that age is probably less important than the presence of complications and/or comorbidities. Additional work is necessary to determine the validity of this finding for all DRGs and the appropriateness of combining the age criterion with the presence of complications and/or comorbidities. Moreover, if revised lists are developed, age splits may not be necessary.

Operating Room Procedures.—The list of operating room procedures and surgical hierarchies within MDCs should also be reviewed. Currently, cases are assigned to DRGs on the basis of the presence or absence of an operating room procedure within MDCs. ProPAC analyses (e.g., for DRGs involving upper extremity procedures) have suggested that heterogeneity can be reduced by further separating patients on the basis of specific operating room procedures.

Patient Disposition at Discharge.—Relatively few DRGs are defined on the basis of patient disposition at discharge. For example, only a few DRGs use death in the assignment criteria. Preliminary analyses of a sample of DRGs confirm that, on average, costs incurred in the care of patients who die in the hospital are much greater than costs incurred in the care of patients in the same DRG who do not die. Furthermore, for some DRGs (e.g., burn DRGs) patients who died were concentrated in certain types of hospitals. The inclusion of discharge disposition could be used more extensively as an assignment criterion if the severity of patients who die is not adequately measured using the current classification variables.

Other Assignment Criteria.—Other problems with the current assignment criteria for DRGs include the determination of principal diagnosis, the presence of multiple diseases during the same admission, and the definition of DRG 468 (operating room procedure unrelated to principal diagnosis). ProPAC will continue to consider changes in these areas that may improve homogeneity within DRGs.

Other Case-Mix Measurement Issues

In addition to the topics discussed above, the Commission's continuing efforts to improve the measurement of case mix will focus on several general issues that are also related to the determination of the payment amounts. These issues are discussed below.

Outlier Payment Policy

Analyses of specific DRGs (e.g., burn DRGs) have identified considerable differences in outlier rates among hospitals. These findings were supported by statistics for a broad range of DRGs, where outlier rates varied significantly across DRGs and by type of hospital within DRG. Differences in outlier rates across institutions may occur for various reasons. These include severity-of-illness differences not currently measured by the DRG system; hospital or physician inefficien-

cies, or both; or other problems in case-mix measurement, such as ICD-9-CM coding limitations.

Thus, the Commission believes that changes in the payment mechanism for outlier cases may be an important method for addressing the problems of heterogeneity. This may be true, for instance, for DRGs where the severity of illness for outlier patients is not adequately measured by the current system. It may be appropriate to adjust the outlier payment rates to more accurately account for the additional costs of treating these patients beyond outlier thresholds.

While changes in outlier payment policy will not make the DRGs more homogeneous, modifying the payment mechanism for outliers may limit the need for improving DRG homogeneity to only inlier cases. ("Inlier cases" are all cases that are not in the outlier category.) That is, the combination of homogeneous DRGs for *inlier* cases and adequate payment mechanisms for *outliers* may solve the inequity problems caused by heterogeneous DRGs. The Commission will continue to examine outlier cases in its analysis of DRG heterogeneity and to consider appropriate changes to outlier payment policies, including marginal payment rates and the outlier thresholds.

Geographic Variations in Resource Use

Geographic variations in resource use are another important source of heterogeneity within DRGs. During 1985, the Commission began examining the extent of geographic variations within DRGs using the existing Medicare data bases. In future analyses, ProPAC will attempt to determine the amount of geographic variations resulting from differences in severity or complexity that the DRG system does not capture adequately.

Documenting and understanding the sources of geographic variations in resource use are also important considerations for many of the other issues facing the Commission. Geographic variations must be considered when new and changing technologies or practice patterns are incorporated into the system. These variations are also important in the analyses of hospital efficiency and productivity to support the empirical basis for the DAF, and in the analysis of changes in the hospital product. Further, studies related to quality of care and the impact of PPS must also take geographic variations into account. The Commission will continue its efforts to document the extent and causes of geographic variations.

High Device Costs and the Labor/Nonlabor Portions of the Payment Amounts

In its 1985 report on the appropriateness of hospital payments for pacemaker implantation, the Commission identified several problems due to the high cost of pacemaker units and unique cost structure of hospital discharges involving pacemaker implantation. Subsequent analyses revealed similar problems with other expensive implantable devices including intraocular lenses, cochlear implants, penile prostheses, and artificial urinary sphincters. Analysis of DRGs involving expensive devices led the Commission to make several recommendations this year.

The Commission has examined the atypical cost structure for discharges involving expensive devices. Adjustments to the labor and nonlabor portions of the standardized payment amounts have been recommended for several DRGs (e.g., cardiac pacemakers) as a result of this analysis. The current methodology for the payment mechanism and for DRG weight calculation assumes that roughly 80 percent of the cost is labor-related. Since this percentage is adjusted for local wage rates, large distortions in payments occur for DRGs where device (nonlabor) costs account for much more than 20 percent. The Commission will continue to study the appropriateness of the current 80/20 policy for labor and nonlabor costs across all DRGs and will recommend improvements where necessary.

Allocation of Nursing Costs

In making its recommendations for improvements in case-mix measurement, the Commission will consider the ability of the DRG system to promote appropriate levels of nursing services to maintain quality care. The Commission has previously expressed concern that the methods used to allocate nursing costs have produced significant inaccuracies in the DRG weights, possibly requiring adjustments to the DRGs to better meas-

ure nursing intensity. Further, the Commission believes that adjusting for nursing intensity may be a useful mechanism for improving DRG homogeneity. The accuracy of the payment amounts may also be improved by incorporating measures of nursing intensity and skill mix into the current costing mechanism.

The Commission has completed, through a contract with Health Economics Research, Inc., a comprehensive evaluation of existing nursing patient classification systems. This contract also provided a review of the literature regarding alternative costing methods for nursing services, the effects of PPS on the quality of nursing care, and the relationship between nursing intensity and patient severity of illness. ProPAC will use this information and results from preliminary empirical analyses in the development of its research strategy for addressing the nursing intensity issue. The Commission will also monitor the empirical research on the allocation of nursing costs funded by HCFA and incorporate those findings into its planned research.

Transfers and Readmissions

The Commission recognizes the responsibility of the PROs to review the transfer and readmission of patients as part of their overall review of medical practice under PPS. The Commission's concern regarding transfers and readmissions relates to the severity difference of patients who are transferred and the adequacy of payments for these patients. The adequacy of payments between the transferring and receiving hospitals and the incentives provided by transfer payment policy will be examined in the context of specific DRG analyses (e.g., burn DRGs) and as part of the Commission's overall analysis of case-mix measurement issues.

As outcome measures, changes in readmission and transfer rates (for the same conditions) may provide empirical evidence about how PPS affects the quality of patient care. The Commission will analyze Medicare data bases to document changes in transfer and readmission rates as hospitals continue to respond to PPS incentives.

Alternative Case-Mix Measurement Systems

As discussed above, the Commission believes that the DRG classification system should be retained, for the present, as the most appropriate measure of hospital case mix. The Commission recognizes that, in the long-term, it may be necessary to consider alternative case-mix measurement systems. This would be the case if the DRG system proves to be inadequate for incorporating new and changing technologies and practice patterns, or for measuring case complexity and severity of illness. The Commission has examined possible criteria for evaluating alternative case-mix measurement systems and will continue to examine these systems as they are developed and improved. If the DRG system is to be replaced or combined with an alternative system, ProPAC believes that an evaluation of the alternative systems against a uniform set of criteria using a single data base would be necessary.

IMPROVING AND UPDATING THE PAYMENT AMOUNTS

The Commission seeks improvement in current methods of DRG classification and case-mix measurement so that PPS payments are distributed in a manner consistent with variations in the resource requirements of treating patients. ProPAC's approach to improving case-mix measurement focuses on both methods for incorporating new technologies and changing practice patterns, and generic improvements in the system necessary to maintain quality care.

In addition to accurate distribution of payments, the Commission is concerned about whether the PPS payment levels are adequate to enable hospitals to provide high-quality care to Medicare beneficiaries. Adequate payments may not ensure that individual hospitals will maintain quality care. The Commission believes, however, that PPS should provide appropriate incentives and payments to encourage hospitals to provide high-quality care.

The standardized amounts are the foundation of PPS payments and a major focus of ProPAC's work. The Commission's efforts include identifying appropriate updates to the standardized amounts as well as considering the effects of recalculating the amounts using more recent data. Furthermore, the Commission plans to perform analyses of other payment issues related to the standardized amounts.

Updating the Standardized Amounts

ProPAC's mandate includes the development of recommendations regarding an appropriate annual percentage change in the standardized amounts. This change, referred to as the update factor, is comprised of a market basket adjustment (with corrections for forecast error) and the discretionary adjustment factor. The Commission's work to refine these components and to assess strategies for recalculating them are discussed below.

The Discretionary Adjustment Factor

The DAF is a quantitative factor that reflects the Commission's judgment of an appropriate allowance for changes in hospital productivity, site-of-care substitution, real case-mix change, and scientific and technological advances. The underlying purpose of the DAF is to ensure that, in combination with ProPAC's other recommendations, the Medicare program continues to provide adequate payments for high-quality hospital care that promotes long-term cost-effectiveness.

The Commission has devoted significant resources toward developing more precise measures of changes in hospital practice patterns. During 1986, it will continue refining the information used to determine the allowance. Furthermore, ProPAC will explore new data sources to enhance the foundation for the discretionary adjustment factor.

Many of the indicators used to determine the DAF are influenced by multiple, cross-cutting factors. Changes in case complexity, for example, may be due to scientific and technological advances that enable hospitals to treat a wider range of patients. For each DAF component, the Commission will attempt to develop more precise indicators that take into account the interrelationships among the components. In this way, ProPAC can more precisely relate trends in overall expenditure patterns with the individual allowances it establishes for each component.

The following section describes specific analytic activities planned by the Commission to support development of the DAF.

Productivity.—The Commission will expand its consideration of changes in productivity to include the use of *total* inputs. This will require assessing the role of labor, capital, and other nonlabor costs in changes in hospital productivity. In addition, the data used to measure productivity will be refined. Specifically, ProPAC will examine more accurate methods to derive costs from existing charge data.

Site-of-Care Substitution.—Measuring site-of-care substitution requires knowledge of the services provided outside the hospital setting to patients who are hospitalized. While data are available to measure resources consumed in the inpatient setting, little information is available on services provided out of the hospital. The Commission plans to explore improved data sources that reflect care provided to patients for an entire episode of illness. Efforts will focus on refining Medicare Part B data and linkage of Medicare Part A and Part B data, by beneficiary, for episodes of illness.

Real Case-Mix Change.—In addition to observed shifts in patients among DRGs, the resource consumption of patients within a DRG may be changing. The Commission will refine its measure of changes in patient complexity within DRGs and associated changes in resource consumption. Analyses will focus on distinguishing real case-mix changes from coding changes, the relationship between case complexity and resource requirements, and measurement of changes in resources consumed.

Scientific and Technological Advances.—The Commission will emphasize studies to estimate the costs associated with new technologies and the ability of the DAF to support the diffusion of these technologies. It will also explore the broader implications of changes in practice patterns on scientific and technological advances. Changes in the application of new technologies in patient care and

the cross-cutting effects of new practice patterns on resources consumed will be analyzed.

The Hospital Market Basket

The hospital market basket index reflects inflation in goods and services purchased by hospitals. It is constructed by determining the inputs that hospitals purchase, the relative weight of each input, the appropriate proxy to measure price changes of each input, and estimates of price changes. Developing the market basket index involves judgments about the appropriate components and price change measures. Often, trade-offs are made between the validity of the measurements and the availability of data.

Recognizing the judgments and trade-offs made in developing the market basket index, the Commission plans further study of possible refinements. In its April 1985 report, ProPAC stated its intent to study certain features of the hospital market basket used to update the PPS standardized amounts. The studies described below will be used in the Commission's deliberations during 1986.

The Number of Market Baskets.—This study will update earlier HCFA analyses of regional market baskets. Information on regional variation in hospital expenses and price differences will first be developed. Then comparisons will be made of regional market basket indexes with the national index.

Effects of the Minimum Wage Law.—Initially, a survey will be conducted to determine existing data sources for comparing the effects of changes in the Federal minimum wage law on hospital workers compared with workers in other industries. If appropriate data are available, the relative effects of changes in the minimum wage law on hospital workers will be analyzed.

Correction of Errors in Forecasting Hospital Wage Increases.—A review will be conducted to determine the extent to which industry-specific wage information is used by public utility commissions or other regulators to set prices in regulated industries. The study will include an analysis of the conditions under which hospital behavior, including hospital response to PPS incentives, could affect the forecasted increase in the market basket.

Measurement of Employee Benefits.—A study will be conducted on the treatment of employee benefits in the PPS market basket. This will include a comparison of the current measure of employee benefits and alternative measures, such as those used by state prospective payment programs.

Recalculating the Standardized Amounts

The Commission believes that, in updating the payment amounts, information reflecting the relationship between hospital costs and PPS payments would be valuable. The Commission has also stressed the importance of more recent cost data on which to make judgments about appropriate payment amounts. ProPAC will continue to monitor the efforts of HCFA to produce more timely cost data. In addition, the Commission plans to examine other issues related to recalculating the standardized amount, which are described below.

Alternative Methods for Recalculation.—The original standardized amounts were calculated giving each hospital the same weight; that is, "hospital-weighted" averages were calculated. The Commission has documented significant distributional shifts in PPS payments if "discharge-weighted" averages were computed instead, giving hospitals with a greater share of Medicare discharges more weight. The Commission will continue to study this issue to determine the most appropriate method of calculation and to further document the distributional effects of each method.

Sampling Hospital Cost Data.—The Commission, through a contract with the Rand Corporation, has completed a preliminary evaluation of HCFA's sample of unaudited cost report data for 1,200 hospitals for the first year of PPS. While Rand found the sample to be representative of those hospitals used to create the standardized amounts, future analyses will determine the precision of estimates generated from this sample. The Commission also plans to examine the feasibility of developing a sample of PPS cost reports from the subset of hospitals with accounting year-end dates earlier in the fiscal year.

Analysis of Cost Data for the First Year of PPS. —The Commission expects to soon receive from HCFA the Medicare Cost Report data for the first year of PPS. A complete set of unaudited reports and audited reports for the sample of 1,200 hospitals (mentioned above) are expected. ProPAC plans to use these data for a number of analyses:

- Recalculating the standardized amounts,
- Updating the comparison of DRG weights calculated by using only charges, with weights calculated by using charges adjusted by costs,
- Documenting changes in costs by cost center since 1981,
- Studying the causes of differences in hospital costs, and
- Analyzing capital costs.

Other Issues Related to the Payment Amounts

Besides updating the PPS payment amounts to reflect changes in the cost of providing care, the Commission recognizes that problems exist in the calculation of certain payment components. Additional complexities arise from failure to reflect capital costs in the payment mechanism. The Commission plans to address these issues through improved understanding of historical cost differences among hospitals and the nature of these costs. Efforts to address other payment amount issues are described in this section.

Hospital Labor Market Areas and Wage Indexes

The urban and rural Federal portion of PPS payment amounts are adjusted to reflect variations in hospital employee wages based on hospital labor market areas. The Commission is concerned about the deficiencies in the current hospital labor market areas. Specifically, ProPAC questions whether they adequately reflect hospital wage variations within urban areas (that is, inner-city versus suburban areas) and variations within the rural areas of a state.

The Commission is studying this issue and has obtained preliminary evidence to justify its concern. Analysis will continue in an effort to develop specific improvements. ProPAC will also study whether current labor and nonlabor proportions of the standardized amounts are appropriate. In addition, it will examine factors that measure the difference in skill mix of hospital employees.

Furthermore, the Commission will continue to monitor the results of HHS evaluations related to hospital labor market areas and will consider these results in formulating improved definitions. Specific recommendations on improved definitions of hospital labor market areas will be made by the Commission no later than April 1987, and possibly in time for the fiscal year 1987 rulemaking process.

The Hospital Product

Understanding changes in the hospital product is important in updating payment amounts, improving DRG classifications and weights, and determining the health outcomes of beneficiaries. The definition of the hospital product, however, is subject to wide interpretation. The product can be characterized as a DRG, the inpatient stay, an entire episode of illness, or patient health outcomes. The Commission will continue to study the nature of the hospital product in order to more precisely define and measure product changes in the future.

Changes in the hospital product may be the result of shifts in the treatment provided during the inpatient stay or shifts in the site of care. The measurement of these changes requires associating hospital costs with the products produced. The Commission plans to study the factors influencing changes in the hospital product as well as alternative costing methodologies. This effort will provide insight regarding needed refinements to PPS and the potential effect of future policy decisions on the production function of hospitals.

Excluded Hospitals

Hospitals excluded from PPS by statute include psychiatric, rehabilitation, pediatric, and long-term care facilities. HCFA and others have con-

ducted studies to determine the differences between PPS hospitals and excluded hospitals. Little of the information developed to date, however, can be used to determine an appropriate payment update for excluded hospitals. The types of patients seen and the treatment provided vary significantly between PPS hospitals and excluded hospitals. The data for excluded hospitals, however, are significantly limited.

During 1986, ProPAC will continue to refine the data used to make its recommendations regarding excluded hospitals. This will include the development of trend data relevant to the update factor. The Commission also intends to continue its study of excluded hospitals in an effort to understand the unique production function of these institutions. Emphasis will be placed on better understanding changes in case mix, productivity, and the impact of scientific and technological advances on the care these hospitals provide. In addition, ProPAC will focus on improving methods for distinguishing between excluded hospitals and excluded units and their products. Finally, the Commission will examine the implications for the DAF of incorporating capital payments into the target rate of increase limits established for excluded hospitals and distinct part units.

Rural Hospitals

The Commission believes that several PPS policies may adversely affect rural hospitals. Some of the policies apply solely to rural hospitals. Others affect all hospitals, yet may have a stronger impact on rural providers. ProPAC, therefore, will focus on differences between urban and rural hospitals in the study of issues mentioned previously, such as hospital labor market areas, DRG classification and case-mix measurement, outlier payments, DRGs with high device costs, and calculation of the standardized amounts. In addition, the Commission will continue efforts to identify problems related to the treatment of rural hospitals under PPS.

Beyond the efforts described above, ProPAC is interested in identifying the reasons for the suspected vulnerability of rural hospitals. Analysis will focus on identifying factors contributing to lower costs, characteristics of access, and organizational trends of rural hospitals, with an emphasis on small rural hospitals. This information is necessary in order to determine the extent of problems facing rural hospitals and whether adjustments can be made to PPS, as currently structured, to alleviate these problems.

Disproportionate Share Hospital Adjustment

The Commission has completed analyses supporting its recommendation to develop a definition of hospitals that serve a disproportionate share of low-income patients and implement a payment adjustment for these hospitals. ProPAC will continue to monitor efforts by the Secretary and the Congress to implement such an adjustment.

Capital Payments Under PPS

ProPAC conducted and reviewed a number of analyses to support its recommendations on capital payment under PPS. The Commission also identified several additional areas for analysis of capital payment under PPS. Thus, the Commission intends to include the following topics on its near-term analytic agenda.

Impact of the Capital Payment Proposal.—The Commission will continue to examine the effects of its capital payment proposal on hospitals. Efforts will focus on identifying types of hospitals that may be disproportionately affected by the proposal due to their unique financial positions. ProPAC will examine appropriate provisions for these hospitals in the event that remedies are required.

The Commission will also examine recent hospital capital investment strategies and their effect on capital spending. For example, ProPAC is interested in the extent to which recent capital expenditures are related to expansion of outpatient services. If recent capital purchases are more heavily devoted to outpatient services, estimates of Medicare inpatient capital-related spending may be overstated.

Finally, the Commission intends to study the impact of incentives introduced by the proposed capital payment system. Specifically, by incorporating capital into PPS, hospitals may increase

outpatient services in order to recover more of their capital costs. Furthermore, the Commission is concerned about the impact of implementing a capital payment system that pays hospitals based on volume rather than on costs. The Commission will identify instances where the proposed payment basis might produce undue hardships for some hospitals and beneficiaries.

The Capital Component of the Hospital Market Basket and Capital Trend Factors.—Under an all-inclusive rate, as recommended by ProPAC, the hospital market basket must be revised to reflect the inclusion of capital. The Commission intends to examine proxies for changes in fixed and moveable capital and their appropriateness for inclusion in the hospital market basket. In addition, the Commission will participate in determining the most appropriate indexes for trending base year fixed and moveable capital amounts forward to 1987. Efforts will focus on identifying data to be used for the trending factors and the application of the factors to baseline amounts.

Construction Capital Cost Variations.—Using existing data sources, ProPAC will study the extent to which construction capital costs vary across regions of the country. This study is designed to determine whether capital market areas exist and, if so, how they relate to the labor market areas defined under PPS. Results of this analysis will enable the commissioners to make judgments about the need for payment adjustments for geographic variations in construction capital costs.

Effects of the Addition of Capital on Payment Components.—The Commission recommendation regarding the method of capital payment requires recomputing the components of PPS payments when appropriate data become available. ProPAC will analyze what effect the addition of capital has on the standardized amounts and the proportions for labor and nonlabor components. Analysis will include determination of the impact of capital inclusion on PPS adjustments, such as the indirect teaching and disproportionate share adjustments.

Separation of Fixed and Moveable Capital.—The Commission will examine technical issues concerning identification and separation of costs related to fixed and moveable capital. This will include an examination of the methods used to allocate fixed and moveable capital on the Medicare Cost Report. The Commission will also examine potential effects of the different treatment of these capital components on hospital behavior during the capital transition period.

DRG Capital Intensity Variations.—One of the capital payment evaluation criteria that the Commission regards as most important is that the payment mechanism should reflect capital intensity variations across DRGs. Many believe that existing charge-based weights reflect accurately the relative capital intensity of the DRGs because hospitals' billed charges include operating and capital expenses. The Commission will analyze this issue and recommend appropriate adjustments if needed.

Hospital-Level Effects of PPS

The Commission has developed a microsimulation model of PPS payments, based on HCFA data bases, to study the distributional effects of PPS payment policies on hospitals. This model was used in the Commission's analysis of the transition to national rates. It will also be used to evaluate the effects of future policy changes on hospitals.

In particular, the model will be used to analyze the effects of policy changes on different groups of hospitals or hospital types; that is, by region, bedsize, teaching status, urban/rural status, and disproportionate share status. Furthermore, the model will be expanded to incorporate other data bases, such as the American Hospital Association Annual Survey and the Area Resource File.

ASSESSING THE EFFECTS OF PPS ON CARE FOR BENEFICIARIES

The Commission strongly believes that implementation of its recommendations will enable hospitals to maintain delivery of high-quality care for beneficiaries. It will, however, devote a significant portion of its resources to studying access and quality. While payment levels are currently adequate for the provision of quality inpatient care, changes in hospital services could diminish access to needed care or affect the quality of that care. Therefore, it is essential to continue to examine the relationship between payment levels and access to quality health care.

Unfortunately, no generally accepted basis for judging the effects of PPS on quality of care exists, and empirical evidence is limited. The Commission is keenly aware that the financial incentives of PPS may lead hospitals to undertake actions that could compromise quality of care. Furthermore, ProPAC is aware that incidents of compromises in quality have been reported and that there are perceptions among some beneficiaries and providers that quality has suffered. Recognizing this, during the past year the Commission has evaluated how it can best contribute to analyzing the effects of PPS on quality of care. This section outlines the Commission's strategy.

Developing ProPAC's Analytic Strategy for Quality of Care

The Commission recognizes that, with limited resources, consideration of quality issues needs to be carefully defined and targeted. The Commission, therefore, allocated staff resources during the past year to the following activities:

- Monitoring studies related to quality of care undertaken by organizations inside and outside of the federal government,
- Consulting with individuals with different perspectives on the quality issue to discuss ProPAC's role in analyzing quality of care,
- Assessing the activities of the PROs in measuring and maintaining quality of care for Medicare beneficiaries, and
- Conducting a study to provide information to support future judgments about the existence of problems and define areas for future studies.

The Commission's study consisted of a systematic review of anecdotal evidence and perceptions related to quality of care. Evidence, in the form of reported incidents and interviews with industry and beneficiary representatives, identified areas most sensitive to changes in quality. The following perceptions were most frequently cited:

- Patients are being discharged "quicker and sicker."
- Appropriate alternative providers are not routinely accessible or available.
- Providers misunderstand how PPS is supposed to work and may risk compromising quality, while beneficiaries are not informed of their rights of appeal within the system.
- PROs have focused on utilization review and do not have sufficient resources to adequately monitor quality of care.

The information obtained from the activities described above enabled the Commission to develop recommendations regarding the PROs, beneficiary and provider information, and beneficiary rights. Furthermore, this information served as the foundation for the Commission's quality of care research strategy.

Analysis of Beneficiary Cost Sharing

The Commission is concerned that changes in health care delivery, including shorter inpatient stays and increased reliance on outpatient surgery, may reduce beneficiary access to medical services. This may occur because beneficiaries have become financially responsible for a larger portion of the cost of their care. If services are not provided during an inpatient stay, beneficiaries pay a larger proportion of Medicare-covered services that are not provided during an inpatient hospital stay. For example, beneficiaries are responsible for 20

percent of the approved charge for outpatient surgery covered under Medicare Part B. Though "Medigap" coverage pays this coinsurance for most beneficiaries, beneficiaries must pay higher premiums for these policies. In addition, Medicare coverage for services received in post-discharge settings is extremely limited. Most Medicare supplemental insurance policies do not cover services excluded from Medicare. ProPAC will continue to examine the increasing proportion of health care costs paid by beneficiaries and the effects of this shift.

The Commission believes that Medicare beneficiaries should share in cost reductions resulting from PPS incentives. It has recommended a change in the method of computing the beneficiary inpatient hospital deductible. The current deductible formula is based on the cost of an average hospital day. As a result, the recent declines in hospital length of stay have accounted for half the increase in the deductible for 1986. The Commission will examine alternative methods for structuring beneficiary cost sharing as the incentives of PPS change hospital practice. For example, the Commission will examine the relationship between outlier cases and Medicare coinsurance.

Analytic Agenda for Quality of Care Research

ProPAC's quality of care analytic agenda focuses on two major research activities. First, the Commission will attempt to detect possible problems related to quality by conducting a series of studies targeted at specific patient groups. Second, the Commission will examine hospital discharge planning practices under PPS to obtain insight into patients' conditions at discharge and their access to post-discharge care. The Commission is also interested in other methods for examining the post-discharge needs of patients, assessing the outcomes of episodes of illness, and disseminating beneficiary information and appeal rights. ProPAC's current direction for quality of care research and its developing analytic agenda are presented below.

Targeted Studies

The Commission's objective in conducting targeted studies is to monitor indirect measures of quality in order to isolate possible problem areas that merit more in-depth review. The studies will focus on changes in specific quality indicators for all beneficiaries and for targeted beneficiary groups believed to be most vulnerable to quality problems.

Quality Indicators.—Using routinely collected data, ProPAC will compare quality indicators during pre- and post-PPS periods. Indicators, or quality proxies, will include length of stay, readmissions, transfers, use of selected ancillary services, complication rates, mortality rates (overall and in-hospital), and emergency visits per discharge. Analysis of quality indicators will use the most current PPS data. In addition, the Commission will monitor the development of improved data bases by HCFA and others for use in its studies. While analysis of quality proxies has limitations, it nonetheless may identify areas for further study or improvement.

Selected Beneficiary Groups.—A major concern related to quality of care is that certain groups of patients with higher-than-average resource needs are more vulnerable to access and quality problems. The Commission will target its analysis of quality indicators on these groups.

One such group, the "frail elderly," is of particular concern to the Commission. This group can be characterized in several ways: the old elderly (e.g., 80 years of age of older), elderly patients having multiple illnesses; or poor elderly beneficiaries. ProPAC's review of anecdotal evidence related to quality indicated several incidents involving the "frail elderly." In addition, industry representatives, beneficiary groups, and health care researchers have expressed concerns for these patients. They fear that the frail elderly are more susceptible to the incentives for hospitals to treat the profitable patients and refer the unprofitable patients elsewhere.

Study of Discharge Planning Under PPS

The Commission has chosen to examine the discharge arrangements hospitals make for beneficiaries from the many possible subjects for quality of care assessment. It is concerned about perceptions that hospitals are prematurely discharging patients and that appropriate post-discharge care is not consistently accessible or available.

To examine this aspect of health care quality, ProPAC will examine hospital discharge planning —an activity intended to connect inpatient hospital care with needed post-discharge care. Discharge planning activity is one measure that can be used to judge the availability of appropriate post-discharge care for beneficiaries. Results of this study may provide guidance for developing quality of care studies that focus on the complete episode of illness.

In its study, the Commission expects to learn how well local health care services are matched with Medicare patients who need post-discharge services. Initially, the Commission will look at the methods, resources, and criteria that hospitals use to discharge patients. The study will evaluate how discharge planning is organized within the hospital, including staffing patterns. It will also examine how available post-discharge services are identified. Finally, the Commission will explore how patients are channelled to appropriate post-discharge services, particularly for patients in areas with limited local supply of post-discharge services.

ProPAC's future research on access and quality will build on findings from this study.

Additional Efforts To Monitor Quality of Care

The dramatic decline in length of stay since the introduction of PPS requires careful monitoring. While this trend was emerging before the introduction of the system, PPS offers extraordinary incentives for hospitals to discharge patients earlier. The Commission is interested in the relationship between shortened hospital stays, the use of medical services at alternative sites of care, and health care outcomes.

Using information derived from the studies described above, ProPAC will develop post-discharge analyses that look more closely at this issue. Specifically, the Commission is interested in observed changes in patient case mix, disposition, health status, functional status, and satisfaction as well as sources and adequacy of care.

In the long-term, the Commission will focus on patients episode of illness. This type of analysis includes assessing all care provided to the beneficiary—preadmission services, acute care, acute after-care, long-term care, home health care, and ambulatory services. Conducting this type of analysis requires combining data that reflect all care the patient receives. ProPAC believes that the primary measure of quality care is the outcome of the episode of illness. The Commission recognizes, however, that development of appropriate data bases will require extensive resources and time. Nevertheless, the Commission will monitor activities in this area and contribute to this effort where appropriate.

ProPAC's review of beneficiaries' perceptions of hospitalization under PPS, as well as information obtained from other sources, clearly indicate a misunderstanding of the basic mechanics of PPS among hospitals, physicians, and beneficiaries. The Commission has made specific recommendations to address this problem. ProPAC will continue to monitor the dissemination of clear, accurate, and helpful information about PPS.

Report Appendix

BIOGRAPHICAL SKETCHES OF COMMISSIONERS

Stuart H. Altman

Stuart H. Altman, dean of the Heller School, Brandeis University, is an economist whose research interests are primarily in the area of Federal health policy. Between 1971 and 1976, Dean Altman was the deputy assistant secretary for planning and evaluation/health at the Department of Health, Education and Welfare (now the Department of Health and Human Services). From 1973 to 1974, he was also deputy administrator at the Cost of Living Council. He is a member of the Institute of Medicine and president of the Association for Health Services Research. He serves on the editorial board of *Policy Analysis*. His recent publications include *Federal Health Policy: Problems and Prospects*, with Harvey M. Sapolksy; "The Impact of Cost Shifting on the Health Care System," in *Health Care Commentary*, Health Insurance Association of America; and "The Growing Physician Surplus: Will it Bankrupt or Benefit the U.S. Health System?" for the National Commission for Manpower and Policy. Dean Altman has also served on the President's Commission for a National Agenda for the Eighties. He received an M.A. and a Ph.D. from the University of California, Los Angeles, and taught at Brown University and the Graduate School of Public Policy (University of California, Berkeley). He is chairman of the board of directors of the University Health Policy Consortium, which includes Brandeis and Boston University.

Karl D. Bays

Karl D. Bays is chairman of the board and chairman of the executive committee of Baxter Travenol Laboratories, Inc. Mr. Bays holds a bachelor's degree from Eastern Kentucky University and a master's degree in business administration from Indiana University. He served two years as an officer of the U.S. Marine Corps. Prior to joining Baxter Travenol, Mr. Bays spent 27 years at American Hospital Supply Corporation. He joined American as a sales representative in 1958 and was named president of the distribution division in 1968. In 1970, he was named president of the corporation and elected a director. He was named chief executive officer in 1971 and chairman of the board in 1974. Mr. Bays is a director of the Northern Trust Corporation and The Northern Trust Company, Amoco Corporation, and Delta Air Lines. He is president of the Commercial Club of Chicago. Mr. Bays is an honorary director of the American Hospital Association, chairman of the McGaw Medical Center of Northwestern University, and a life director of Lake Forest (Illinois) Hospital. He is chairman of the Hospital Research and Educational Trust of the American Hospital Association, and a member of the Institute of Medicine. He is a trustee of Northwestern University and a trustee emeritus of Duke University. He has received numerous honors and awards, including the Horatio Alger Award and the University of Southern California School of Business Administration Award for Business Excellence. He has been named outstanding chief executive officer in the hospital supply industry five times by the *Wall Street Transcript* and *Financial World* magazine.

Harold A. Cohen

Harold A. Cohen is the executive director of the Health Services Cost Review Commission of the state of Maryland, and a lecturer in the Department of Health Care Organization of the Johns Hopkins University. Prior to 1972, he was on the economics faculty of the University of Georgia. He holds an M.A. and Ph.D. in economics from Cornell University, and received his bachelor's degree from Harpur College (now the State University of New York at Binghamton). He has been a leader in the development and administration of state-level cost review and rate-setting efforts. He is a member of the American Economics Association, the Southern Economic Association, the Western Economic Association, the American Public Health Association, and the Health Economic Research Organization. Dr. Cohen is the author of numerous professional publications, including "The Financing of Coronary

Artery Bypass Surgery," *Circulation*, November 1982; "Case Mix and Regulation," *Topics in Health Care Financing: Diagnostic Related Groups*, Summer 1982; "Evaluating the Cost of Technology," *Health Care in the 1980s*, 1979; and "Controlling Medicaid Expenditures by General Price Controls," *The Medicaid Crisis: What States Can Do in the 1980s*, 1982.

John W. Colloton

John W. Colloton is director of the University of Iowa Hospitals and Clinics, and assistant to the university president for statewide health services. He received his B.A. in business from Loras College and an M.A. in hospital and health administration from the University of Iowa. He has held his present positions since July 1971. For the 15 years prior to that, Mr. Colloton held various positions at the University of Iowa Hospitals and Clinics. He is a member of the American College of Hospital Administrators. He is vice chairman of the Blue Cross board of directors, and has an extensive record of professional activities, including the chairmanship of the Association of American Medical Colleges' (AAMC) Council of Teaching Hospitals; the chairmanship of the Iowa Hospital Association; and memberships on the board of directors of the American Association of Hospital Planning; the AAMC executive council; the American Joint Liaison Committee; the Department of Health, Education and Welfare's Advisory Committee on the Future of Public Health Service Hospitals; and the advisory committee to the Association of Academic Health Centers' study of the impact of Federal policy changes on academic health centers.

Yvette F. Francis

Yvette F. Francis is the medical director of the Sickle Cell Center for Research and the former medical director of St. Albans Family Medical Center, Queens, New York. Previously, she was director of medical services at Windham Children's Service in New York City, and director of pediatrics at the George and Robert Carter Community Health Center in Queens. Dr. Francis received her B.A. from Hunter College in New York City, and an M.A. in chemistry from Columbia University. She received her M.D. from Yale University. She took a rotating internship at Michael Reese Hospital, Chicago, in 1950-1951. She has had a private practice in pediatrics from 1955 to the present. In 1978-1979, she took a residency in internal medicine at Brooklyn-Cumberland Medical Center and, from 1979 to 1981, she was a Hematology Fellow at Bronx-Lebanon Medical Center and Coney Island Hospital. She is a member of the American Medical Association, the National Medical Association, the American Board of Pediatrics, and the American Medical Women's Association. She is a former member of the Department of Health, Education and Welfare's Advisory Committee on Sickle Cell Disease.

Sister Sheila Lyne

Sister Sheila Lyne, R.S.M., is the president of Mercy Hospital and Medical Center, Chicago. She was appointed acting president in 1976, and in the following year became president. Previously, she was vice president for human resources and assistant vice president for ambulatory services. In the 1960s, she was a nurse therapist, a supervising clinical specialist, a nursing supervisor and instructor, and a staff nurse. She was an assistant professor in the graduate school of the University of Iowa from 1967 to 1970. She received a B.S. in nursing and an M.S. in psychiatric nursing from St. Xavier College in Chicago, and an M.B.A. from the University of Chicago. She is a member of the Chicago Board of Health, the Board for Opinions on Professional Nursing (state of Illinois), the American College of Hospital Administrators, the Institute of Medicine of Chicago, and a trustee-at-large and member of the executive committee of the Illinois Hospital Association.

Barbara J. McNeil

Barbara J. McNeil is professor of radiology at Harvard Medical School, Brigham and Women's Hospital, and professor of clinical epidemiology, Harvard Medical School. She is also director of the Center for Cost-Effective Care, Brigham and Women's Hospital, and deputy director for residency training, Joint Program in Nuclear Medicine, Harvard Affiliated Hospitals. Dr. McNeil

is a member of the Harvard-Massachusetts Institute of Technology Division of Health Sciences and Technology. She has a B.A. in chemistry from Emmanuel College, an M.D. from Harvard Medical School, and a Ph.D. in biological chemistry from Harvard University. She is board-certified by the American Board of Nuclear Medicine. Her professional and advisory activities are extensive. Dr. McNeil was formerly a member of the council of the National Center for Health Care Technology and of the board of the Association for Health Services Research. Currently, she is a member of the Institute of Medicine, the Fleischner Society, and the National Council on Radiation Protection and Measurements. She serves on the board of trustees of the Society for Medical Decision Making and on the American College of Radiology's self-assessment committee in nuclear radiology. She is the author of six books and more than 100 professional articles and reports.

Richard J. Mellman

Richard J. Mellman retired in 1984 as vice president and actuary of the Prudential Insurance Company. He had been responsible since 1976 for coordinating the company's policy on health issues in relation to developments in the private health insurance industry, the medical delivery system, and government. Earlier, Mr. Mellman held various assignments in the Actuarial and Comptroller's Departments and, from 1950 to 1975, in the Group Insurance Department, where he played a major role in the design and development of several new coverages, including major medical, long-term disability, dental, term and paid-up, and personal accident insurance. He is a Fellow of the Society of Actuaries. He is a Phi Beta Kappa from Harvard University, where he received bachelor's and master's degrees in mathematics. He has been active on many committees of associations, including the Health Insurance Association of America, the American Council of Life Insurance, the Society of Actuaries, and the American Academy of Actuaries. He is the author of several papers on health issues and actuarial subjects and was a spokesman on health policy issues for the insurance industry. Mr. Mellman is a past member of the Council on Financing of the American Hospital Association. He has been a member of several New Jersey study commissions concerned with numerous health issues, including long-term care and hospital corporate structure.

James J. Mongan

James J. Mongan is the executive director of the Truman Medical Center, Kansas City, Missouri. From 1979 to 1981, he was the associate director for health and human resources, Domestic Policy Staff, the White House. From 1977 to 1979, he served as deputy assistant secretary for health policy at the Department of Health, Education and Welfare, and was the Secretary's special assistant for National Health Insurance. For the seven years prior to that, he was a professional staff member of the Committee on Finance, U.S. Senate. He received his A.B. and his M.D. from Stanford University. He holds assistant professorships in the School of Nursing and in Health Care Administration at the University of Missouri, Kansas City. He is a member of the governing council of the Public-General Hospital Section of the American Hospital Association, the chairman of the Missouri Hospital Association Council on Research and Policy Development, and a member of the Missouri State Medical Association Commission on Continuing Education and Health Manpower.

John C. Nelson

John C. Nelson is a practicing obstetrician and gynecologist in Salt Lake City, Utah. He received his bachelor's degree in zoology from Utah State University, and his M.D. from the University of Utah College of Medicine. He took his internship at the Providence Hospital in Portland, Oregon, and a residency with the Department of Obstetrics and Gynecology of the University of Utah. He is board-certified by the American Board of Obstetrics and Gynecology, and a Fellow of the American College of Obstetrics and Gynecology. He is a member of the American Medical Association, a delegate to the Utah State Medical Association House of Delegates, and American Medical Association delegate from Utah. He serves on the editorial board of the *Utah Medical Bulletin*, the Board of Utah Health Cost Management Foun-

dation, and on the American Medical Association's Health Policy Agenda for the American People—Work Group on Evaluation, Assessment, and Control. Dr. Nelson has been involved in cost-containment efforts at local and state levels and is active in the American Cancer Society and numerous other medical and civic efforts.

Steven A. Schroeder

Steven A. Schroeder is chief of the Division of General Internal Medicine and professor of medicine at the University of California, San Francisco (UCSF), and a member of the Institute for Health Policy Studies at the university. He is a practicing general internist and an attending physician at UCSF hospitals. He has a B.A. from Stanford University and an M.D. from Harvard Medical School. From 1971 to 1976, he was on the faculty of the George Washington University (GWU) Medical Center, and from 1972 to 1976 was the medical director of the GWU Health Plan. In 1976, he became an associate professor in the Department of Medicine at UCSF. He was a visiting professor in the Department of Community Medicine of St. Thomas's Hospital Medical School, London, in 1982-1983. He is a diplomate of the American Board of Internal Medicine, a Fellow of the American College of Physicians, and a member of the Institute of Medicine. He is also president of the Society for Research and Education in Primary Care Internal Medicine. Dr. Schroeder serves on the editorial boards of several journals, and is a consultant and adviser to numerous organizations. He has published extensively on such topics as primary care, medical technology, preventive medicine, clinical iatrogenesis, and physician reimbursement.

Bert Seidman

Bert Seidman has been the director of the Department of Occupational Safety, Health and Social Security of the AFL-CIO, Washington, D.C., since July 1983. From 1962 to 1966, he was the AFL-CIO European economic representative stationed in Paris and then in Geneva. Prior to that, he served for 14 years as an economist in the Research Department of the AFL and AFL-CIO. In 1966, he became director of the AFL-CIO Social Security Department. He was a member of the U.S. labor delegation to the annual conference of the International Labor Organization (ILO) from 1958 to 1976 and, from 1972 to 1975, was a member of the ILO governing body. In 1973 and 1974, he was the U.S. worker delgate to the ILO conference. He has served on numerous committees, including the Federal Advisory Council on Employment Security, the Advisory Council on Health Insurance for the Disabled, the Task Force on Medicaid and Related Programs, the Advisory Council on Social Security, the Federal Hospital Council, the Health Insurance Benefits Advisory Council, the Blue Cross Advisory Committee, the 1981 White House Conference on Aging (the Advisory Committee and chairman of the Technical Committee on Retirement Income). At present, he is a member of the HMO Industry Council, the board of trustees of Group Health Association of America and the National Advisory Committee to the Robert Wood Johnson Foundation on Community Programs for Affordable Health Care. He is also a vice president of the National Consumers League.

Jack K. Shelton

Jack K. Shelton is manager of the Employee Insurance Department of Ford Motor Company, which he joined in 1956. He is responsible for the financial control and analysis of all employee benefit plans except pension and savings and stock plans, including participation in union negotiations, insurance carrier relations, financial control of company-administered plans, and reviewing changes in wage and benefit programs for foreign subsidiaries. Mr. Shelton is actively involved in a number of local and national health care organizations, serving as a director of the National Fund for Medical Education and a member of the Statewide Health Coordinating Council in Michigan. In 1985, he was a member of an Office of Technology Assessment Advisory Panel on Alternative Physician Payments for Medicare, and was chairman of the Employer Prospective Payment Advisory Commission for the Washington Business Group on Health. He is past chairman of the National Industry Council for HMO Development, the Michigan Health Economics

Coalition, the Michigan Hospital Capacity Reduction Corporation, and the Health Alliance Plan (Michigan's largest HMO). Mr. Shelton received his B.S. and M.S. degrees in industrial psychology from Oklahoma State University.

M. Keith Weikel

M. Keith Weikel has served since December 1984 as executive vice president and chief operating officer, Manor HealthCare. He previously served as group vice president of American Medical International (AMI) of Los Angeles and president of Friesen International, an AMI subsidiary based in Washington, D.C. He is the 1983 president of the Federation of American Hospitals. Dr. Weikel received a master of science degree in pharmacy administration, and a Ph.D. in marketing and economics from the University of Wisconsin. Prior to joining AMI in 1978, he worked seven years for the Department of Health and Human Services where, as commissioner of the Medical Services Administration, he administered the Medicaid program. His private sector experience also includes five years with the U.S. subsidiary of a major international pharmaceuticals firm.

Irwin Wolkstein

Irwin Wolkstein is a principal officer in the consulting firm of Health Policy Alternatives, Inc., located in Washington, D.C. From 1975 to 1978, he was associate director of the Washington office of the American Hospital Association, where he was responsible for dealing with legislative and regulatory issues in the health field. Prior to 1975, he was deputy director of the Medicare program in charge of program policy, and director of the Social Security Administration's legislative activities in regard to health insurance. He served as the principal Social Security Administration adviser to the Congress on Medicare proposals. Mr. Wolkstein is a graduate of the University of Michigan, and is the author of more than 20 published articles on health policy and financing, including "Hospital Financing—the Impossible and the Possible Dream," *Bulletin of the New York Academy of Medicine*, January 1979; and "Health Technology: the Hope and the Fear," *Medical Instrumentation*, May-June, 1978.

PROSPECTIVE PAYMENT ASSESSMENT COMMISSION POLICY STATEMENT

Responsibilities.—The Prospective Payment Assessment Commission (ProPAC) has two major responsibilities: (1) recommending annually to the Secretary of the Department of Health and Human Services the appropriate annual percentage change in payment for hospital inpatient discharges. The Commission is to report its recommendations to the Secretary by April 1st of each year; (2) consulting with and recommending to the Secretary needed changes in the diagnosis-related group (DRG) classification (e.g., new DRGs, modifications to existing DRGs) and needed changes in the relative weighting factors of the DRGs for discharges beginning October 1, 1985 and at least every four years thereafter. In addition, the Commission is required to report to the Congress its evaluation of any adjustments made by the Secretary regarding the DRG classification and weighting factors.

In making its recommendations, the Commission will consider the hospital market basket, hospital productivity, technological and scientific advances, quality of care and long-term cost-effectiveness of services. In order to carry out its responsibility to identify medically appropriate patterns of health resources use, the Commission is required to collect and assess information on regional variations in medical practice; length of hospitalization; and the safety, efficacy, and cost-effectiveness of new and existing medical and surgical procedures, practices, services, and technologies. While the Commission will use existing information where possible, it will also use its research authority to award grants or contracts where existing information is inadequate.

The Commission shall focus initially on the two primary responsibilities cited above. Other responsibilities will be pursued to the limit of available staff and resources. The Commission will also monitor executive and legislative branch actions in regard to such areas as capital costs, inclusion of physicians in the DRG system, and teaching hospital costs, but it will only become directly involved in them to the extent that they affect the Commission's direct responsibilities.

Relationship to the Public.—The Commission welcomes and encourages constructive relations with the public. Its meetings shall be open, and it will maintain a mailing list, to the extent its funds allow, in order to keep the interested public informed of its activities and meetings.

Further, the Commission encourages consumers, hospitals, physicians, business firms, and other individuals and groups to submit information, preferably in writing, with respect to the medical and surgical procedures, services, practices, and technologies or other information relevant to the Commission's responsibilities. The Commission will consider this information in making reports and recommendations to the Secretary and the Congress.

However, it is extremely important to remember that the Commission is not an appeals body. It has no appeals functions or regulatory powers. The information accompanying an appeal may be used as data on system-level trends.

COMMISSION STRUCTURE, ASSIGNMENTS, AND MEETING DATES

Structure and Assignments

Subcommittee on Data Development and Research

The subcommittee is charged with identifying data needs and availability of data sources relevant to the Commission's responsibilities. The subcommittee, in consultation with interested persons and experts, will analyze issues related to data needs, sources, and availability as well as the strengths and weaknesses of the data and will report its findings to the full Commission. Where data are needed but unavailable, the subcommittee will develop options and recommendations for developing it for presentation to the Commission.

Members

Steven A. Schroeder, *Chair*
Harold A. Cohen
Yvette F. Francis
Barbara J. McNeil
Richard J. Mellman
Irwin Wolkstein

Subcommittee on Hospital Productivity and Cost-Effectiveness

The subcommittee is charged with identifying and examining procedures and issues related to the measurement of productivity and cost-effectiveness, including an examination of the hospital market basket and related variations in the provision of hospital services. The subcommittee, in consultation with interested persons and experts, will analyze issues related to hospital productivity and cost-effectiveness and will present its findings, including options and recommendations, to the full Commission.

Members

Harold A. Cohen, *Chair*
Yvette F. Francis
Sister Sheila Lyne
Richard J. Mellman
Bert Seidman
Jack K. Shelton
M. Keith Weikel

Subcommittee on Diagnostic and Therapeutic Practices

The subcommittee is charged with identifying and examining technological and scientific advances, changing treatment patterns, and quality of care issues. The subcommittee is also charged with examining the safety, efficacy, and relative cost-effectiveness of medical and surgical procedures, services, and technologies as they relate to the Commission's primary responsibilities. The subcommittee, in consultation with interested persons and experts, will analyze issues related to the assessment of new and existing procedures, services, and technologies and will present its findings, including options and recommendations, to the full Commission.

Members

Barbara J. McNeil, *Chair*
Karl D. Bays
John W. Colloton
James J. Mongan
John C. Nelson
Steven A. Schroeder
Irwin Wolkstein

Meeting Dates

Subcommittee on Data Development and Research

July 18, 1985
September 19, 1985
November 13, 1985
January 22, 1986

Subcommittee on Hospital Productivity and Cost-Effectiveness

July 17, 1985
September 18, 1985
November 12, 1985
January 21, 1986
February 10, 1986
March 3-4, 1986

Subcommittee on Diagnostic and Therapeutic Practices

July 17, 1985
September 18, 1985
November 12, 1985
January 21, 1986
February 14, 1986
March 4, 1986

Prospective Payment Assessment Commission

July 18, 1985
September 19, 1985
November 13, 1985
January 22, 1986
March 5, 1986

STATUTORY MANDATE OF THE COMMISSION

Congress established the Prospective Payment Assessment Commission ("ProPAC") in Pub.L. 98-21, (the Social Security Amendments of 1983), April 20, 1983. The various responsibilities of ProPAC are set forth in Section 1862(a) and Section 1886 of the Social Security Act as amended by Pub.L. 98-21 and as amended by Pub.L. 98-369 (the Deficit Reduction Act of 1984), July 18, 1984. Further responsibilities are set forth in the Deficit Reduction Act of 1984, and the Report of the House Appropriations Committee, H.Rep. No. 911, 98th Cong., 2d Sess. (1984) 139,140, accompanying the appropriations legislation for ProPAC for fiscal year 1985, Pub.L. 98-619, November 8, 1984. The following are the relevant passages of these legislative sources.

Section 1886(d)(4)(C) and (D) of the Social Security Act

(C) The Secretary shall adjust the classifications and weighting factors established under subparagraphs (A) and (B), for discharges in fiscal year 1986 and at least every four fiscal years thereafter, to reflect changes in treatment patterns, technology, and other factors which may change the relative use of hospital resources.

(D) The Commission (established under subsection (e)(2)) shall consult with and make recommendations to the Secretary with respect to the need for adjustments under subparagraph (C), based upon its evaluation of scientific evidence with respect to new practices, including the use of new technologies and treatment modalities. The Commission shall report to the Congress with respect to its evaluation of any adjustments made by the Secretary under subparagraph (C).

Section 1886(e)(2) through (6) of the Social Security Act

(2) The Director of the Congressional Office of Technology Assessment (hereinafter in this subsection referred to as the "Director" and the "Office," respectively) shall provide for appointment of a Prospective Payment Assessment Commission (hereinafter in this subsection referred to as the "Commission"), to be composed of independent experts appointed by the Director (without regard to the provisions of title 5, United States Code, governing appointments in the competitive service). In addition to carrying out its functions under subsection (d)(4)(D), the Commission shall review the applicable percentage increase factor described in subsection (b)(3)(B) and make recommendations to the Secretary on the appropriate percentage change which should be effected for hospital inpatient discharges under subsections (b) and (d) for fiscal years beginning with fiscal year 1986. In making its recommendations, the Commission shall take into account changes in the hospital market-basket described in subsection (b)(3)(B), hospital productivity, technological and scientific advances, the quality of health care provided in hospitals (including the quality and skill level of professional nursing required to maintain quality care), and long-term cost-effectiveness in the provision of inpatient hospital services.

(3) The Commission, not later than the April 1 before the beginning of each fiscal year (beginning with fiscal year 1986), shall report its recommendations to the Secretary on an appropriate change factor which should be used (instead of the applicable percentage increase described in subsection (b)(3)(B)) for inpatient hospital services for discharges in that fiscal year.

(4) Taking into consideration the recommendations of the Commission, the Secretary shall determine for each fiscal year (beginning with fiscal year 1986) the percentage change which will apply for purposes of this section as the applicable percentage increase (otherwise described in subsection (b)(3)(B)) for discharges in that fiscal year, and which will take into account amounts necessary for the efficient and effective delivery of medically appropriate and necessary care of high quality.

(5) The Secretary shall cause to have published in the Federal Register, not later than:

(A) the June 1 before each fiscal year (beginning with fiscal year 1986), the Secretary's proposed determination under paragraph (4) for that fiscal year for public comment, and

(B) the September 1 before such fiscal year after such consideration of public comment on the proposal as is feasible in the time available, the Secretary's final determination under such paragraph for that year.

The Secretary shall include in the publication referred to in subparagraph (A) for a fiscal year the report of the Commission's recommendations submitted under paragraph (3) for that fiscal year.

(6)(A) The Commission shall consist of 15 individuals. Members of the Commission shall first be appointed no later than April 1, 1984, for a term of three years, except that the Director may provide initially for such shorter terms as will insure that (on a continuing basis) the terms of no more than seven members expire in any one year.

(B) The membership of the Commission shall provide expertise and experience in the provision and financing of health care, including physicians and registered professional nurses, employers, third party payors, individuals skilled in the conduct and interpretation of biomedical, health services, and health economics research, and individuals having expertise in the research and development of technological and scientific advances in health care. The Director shall seek nominations from a wide range of groups, including:

(i) national organizations representing physicians, including medical specialty organizations and registered professional nurses and other skilled health professionals;

(ii) national organizations representing hospitals, including teaching hospitals;

(iii) national organizations representing manufacturers of health care products; and

(iv) national organizations representing the business community, health benefit programs, labor, and the elderly.

(C) Subject to such review as the Office deems necessary to assure the efficient administration of the Commission, the Commission may:

(i) employ and fix the compensation of an Executive Director (subject to the approval of the Director of the Office) and such other personnel (not to exceed 25) as may be necessary to carry out its duties (without regard to the provisions of title 5, United States Code, governing appointments in the competitive service);

(ii) seek such assistance and support as may be required in the performance of its duties from appropriate Federal departments and agencies;

(iii) enter into contracts or make other arrangements, as may be necessary for the conduct of the work of the Commission (without regard to section 3709 of the Revised Statutes (41 U.S.C.5));

(iv) make advance, progress, and other payments which relate to the work of the Commission;

(v) provide transportation and subsistence for persons serving without compensation; and

(vi) prescribe such rules and regulations as it deems necessary with respect to the internal organization and operation of the Commission.

Section 10(a)(1) of the Federal Advisory Committee Act shall not apply to any portion of a Commission meeting if the Commission, by majority vote, determines that such portion of such meeting should be closed.

(D) While serving on the business of the Commission (including travel-time), a member of the Commission shall be entitled to compensation at the per diem equivalent of the rate provided for level IV of the Executive Schedule under section 5315 of title 5, United States Code; and while so serving away from home and his regular place of business, a member may be allowed travel expenses, as authorized by the Chairman of the Commission. Physicians serving as personnel of the Commission may be provided a physician comparability allowance by the Commission in the same manner as Government physicians may be provided such an allowance by an agency under section 5948 of title 5, United States Code, and for such purpose subsection (i) of such section shall apply to the Commission in the same manner as it applies to the Tennessee Valley Authority.

(E) In order to identify medically appropriate patterns of health resources use in accordance with paragraph (2), the Commission shall collect and

assess information on medical and surgical procedures and services, including information on regional variations of medical practice and lengths of hospitalization and on other patient-care data, giving special attention to treatment patterns for conditions which appear to involve excessively costly or inappropriate services not adding to the quality of care provided. In order to assess the safety, efficacy, and cost-effectiveness of new and existing medical and surgical procedures, the Commission shall, in coordination to the extent possible with the Secretary, collect and assess factual information, giving special attention to the needs of updating existing diagnosis-related groups, establishing new diagnosis-related groups, and making recommendations on relative weighting factors for such groups to reflect appropriate differences in resource consumption in delivering safe, efficacious, and cost-effective care. In collecting and assessing information, the Commission shall:

(i) utilize existing information, both published and unpublished, where possible, collected and assessed either by its own staff or under other arrangements made in accordance with this paragraph;

(ii) carry out, award grants or contracts for, original research and experimentation, including clinical research, where existing information is inadequate for the development of useful and valid guidelines by the Commission; and

(iii) adopt procedures allowing any interested party to submit information with respect to medical and surgical procedures and services (including new practices, such as the use of new technologies and treatment modalities), which information the Commission shall consider in making reports and recommendations to the Secretary and Congress.

(F) The Commission shall have access to such relevant information and data as may be available from appropriate Federal agencies and shall assure that its activities, especially the conduct of original research and medical studies, are coordinated with the activities of Federal agencies.

(G)(i) The Office shall report annually to the Congress on the functioning and progress of the Commission and on the status of the assessment of medical procedures and services by the Commission.

(ii) The Office shall have unrestricted access to all deliberations, records, and data of the Commission, immediately upon its request.

(iii) In order to carry out its duties under this paragraph, the Office is authorized to expend reasonable and necessary funds as mutually agreed upon by the Office and the Commission. The Office shall be reimbursed for such funds by the Commission from the appropriations made with respect to the Commission.

(H) The Commission shall be subject to periodic audit by the General Accounting Office.

(I)(i) There are authorized to be appropriated such sums as may be necessary to carry out the provisions of this paragraph.

(ii) Eighty-five percent of such appropriation shall be payable from the Federal Hospital Insurance Trust Fund, and 15 percent of such appropriation shall be payable from the Federal Supplementary Medical Insurance Trust Fund.

(J) The Commission shall submit requests for appropriations in the same manner as the Office submits requests for appropriations, but amounts appropriated for the Commission shall be separate from amounts appropriated for the Office.

Section 1862(a) of the Social Security Act

(a) Notwithstanding any other provision of this title, no payment may be made under part A or part B for any expenses incurred for items or services:

(1)(A) which, except for items and services described in subparagraph (B), (C), or (D), are not reasonable and necessary for the diagnosis or treatment of illness or injury or to improve the functioning of a malformed body member,

(B) in the case of items and services described in section 1861(s)(10), which are not reasonable and necessary for the prevention of illness,

(C) in the case of hospice care, which are not reasonable and necessary for the palliation or management of terminal illness, and

(D) in the case of clinical care items and services provided with the concurrence of the Secretary and with respect to research and experimentation conducted by, or under contract with, the Prospective Payment Assessment Commission or the Secretary, which are not reasonable and necessary to carry out the purposes of section 1886(e)(6);...

Section 2304(b)(2) and (3) of the Deficit Reduction Act of 1984

(2) The Prospective Payment Assessment Commission, established under section 1886(e) of the Social Security Act, shall review and report to the Committee on Ways and Means of the House of Representatives and the Committee on Finance of the Senate regarding the appropriateness of the payment amounts provided under section 1886(d) of such Act for inpatient hospital services associated with implantation or replacement of pacemaker devices and pacemaker leads. Such review shall take into account the time, difficulty, and costs associated with such procedures at the current time in comparison with the time, difficulty, and costs associated with such procedures upon which the payment rates for such procedures under part A of title VIII of such Act are based.

(3) The Secretary and the Commission shall each complete the review described in paragraph (1) or (2), respectively, of this subsection and report on such review not later than March 1, 1985.

H. Rep. No. 861, 98th Cong., 2d Sess. 1299 (1984)

(Report of the Committee of Conference, Deficit Reduction Act of 1984)

Limits for Exempted Hospitals.—...the rate of increase for exempted hospitals and exempted hospital units shall not exceed market basket plus one-quarter percentage point in the first year and shall not exceed market basket plus one-quarter of one percentage point in the second year.

The Secretary, taking into account the recommendations of the Prospective Payment Commission, shall continue to have authority to establish a rate of increase, as under current law, but not more than market basket plus one-quarter of one percentage point during the applicable period.

H. Rep. No. 911, 98th Cong., 2d Sess. 140 (1984)

(Report of the Committee on Appropriations, Pub.L. 98-619)

...The Committee believes that the role of the Commission is that of a highly knowledgeable independent panel to advise the executive and legislative branches on the medicare reimbursement system. While this advice includes rate setting and technology assessment, the Committee believes that the primary role of the Commission lies in a broader evaluation of the impact of Public Law 98-121 [sic] on the American health care system. The Committee therefore directs that the Commission submit an annual report to the Congress which expresses its view on these issues. The first report should be submitted by October 1, 1985. Included in the amount approved by the Committee is $1 million for research. The Committee expects a substantial portion of these funds to be devoted to this new report.

OUTSIDE CONSULTANTS AND PRESENTATIONS TO THE PROSPECTIVE PAYMENT ASSESSMENT COMMISSION, APRIL 1985—MARCH 1986

Presentations to the Commission and Its Subcommittees

HHS Study on Incorporating Capital into PPS (September 1985)	Kathleen Means, Department of Health and Human Services
Paying for Costly New Technologies—Magnetic Resonance Imaging (November 1985)	Charles E. Putnam, M.D., Duke University Earl P. Steinberg, M.D., Johns Hopkins University William J. Bunnell, Radiologic Resources, Inc. F. David Rollo, M.D., Humana Hospital Corporation
Rural Hospital Issues (November 1985)	Jim Furey, Finger Lakes Area Hospital Corporation Marilyn Koch, Health Care Financing Administration Kenneth Shull, Stanley Memorial Hospital Tim Size, Rural Wisconsin Hospital Cooperative
Quality of Care (November 1985)	Lonnie Bristow, M.D., American Medical Association Thomas Dehn, M.D., American Peer Review Association Barbara Herzog, Ph.D., American Association of Retired Persons Al Dobson, Ph.D., Health Care Financing Administration
Case-Mix Measurement (January 1986)	Richard Berman and Jesse Green, New York University Medical Center Peter Van Etten, New England Medical Center S. E. Berki and J. William Thomas, University of Michigan

Presentations, Consultants, and Advisory Groups to Commission Staff

Panel to Advise Staff on Disproportionate Share Hospitals (May, July, August 1985)	Dennis Andrulis, Association of Public Hospitals Jack Ashby, D.C. Hospital Association Al Dobson, Ph.D., Health Care Financing Administration Dave Dolkart, American Hospital Association Mike Fitzmaurice, Health Care Financing Administration

	Steve Long, Congressional Budget Office Julian Pettingill, Congressional Research Service Steve Sheingold, Congressional Budget Office
Case-Mix Systems: MEDISGRPS (June 1986)	Alan Brewster, MediQual Systems, Inc.
Case-Mix Measurement in Children's Hospitals (June, July 1985)	John Muldoon and Robert Sweeney, National Association of Children's Hospitals and Related Institutions
Feasibility of DRGs for Psychiatric Hospitals (September 1986)	Bob Thomas, National Association of Private Psychiatric Hospitals Peter Fox, Lewin and Associates, Inc.
State Adoption of DRG-Based Systems (October 1985)	Don Zimmerman, Zimmerman Consulting
Panel to Advise Staff on Empirical Basis for the Discretionary Adjustment Factor (October 1985, January 1986)	Rose Connerton, Health Care Financing Administration Jack Cook, Consultant Paul Ginsburg, Rand Corporation Joe Eichenholtz, CIGNA Corporation Mark Freiman, Health Economics Research, Inc. Janet Myder, National Council of Senior Citizens Louise Russell, Brookings Institute J.B. Silvers, Consultant Gordon Trapnell, Actuarial Research Corporation Judy Wagner, Office of Technology Assessment Joe Martin, American Hospital Association Mark Freeland, Health Care Financing Administration Ross Arnett, Health Care Financing Administration
Revision of the ICD Coding System (October 1985)	Susan Meads, National Center for Health Statistics
Research on Effects of PPS (November 1985)	Jack Hadley and Judy Feder, Georgetown University Health Policy Center
Statistical Panel to Advise Staff on Analysis of Case-Mix Issues (November 1985)	John Hartigan, Yale University Jim Ware, Harvard University Leo Bryman, University of California (Berkeley)
Case-Mix Systems: Severity of Illness Index (November 1985)	Susan Horn, Johns Hopkins University
Case-Mix Research: Comparative Evaluation of Alternative Systems (November 1985)	Marie Ashcraft and Bill Thomas, University of Michigan

Review of PRO Quality Assessment Activities (November 1985)	David Hodgson, Hodgson & Associates
Analysis of Differences Between Excluded Hospitals and PPS Hospitals (December 1985)	Jack Needleman, Lewin and Associates, Inc.
Analysis of Selected Capital Payment Issues (December 1985)	Jerry Anderson, Johns Hopkins Center for Hospital Finance and Management
Analysis of Hospital Financial Indicators (December 1985)	William Cleverley, Ohio State University
National DRG Validation Study (December 1985)	Patricia Brooks and Bart McCann, Department of Health and Human Services, Office of Inspector General
Panel to Advise Staff on Quality of Care Research (December 1985)	Marilyn Moon, Urban Institute Jack Needleman, Lewin and Associates, Inc. Joe Martin, American Hospital Association Marian Gornick, Health Care Financing Administration Kathleen Calore, Health Economics Research, Inc.
PRO Activities (December 1985)	Linda Clark, Delmarva PRO
Nursing Cost Allocation; General Case-Mix Issues (December 1985)	John Thompson, Yale University
Case-Mix Measurement (December 1985)	Richard Berman and Jesse Green, New York University
Evaluation of Maryland's Semidirect Method for Calculating Per-Diem Costs: The Effect on DRG Weights (January 1986)	John Colmers, Maryland Health Services Cost Review Commission
Evaluation of HCFA "Speed Audit" Hospital Sample and Sampling Issues for Obtaining Cost Data (January 1986)	Willard Manning and Joe Newhouse, Rand Corporation
Study of Hospital Costs and Profits (January 1986)	Larry Simmons and George Reed, Department of Health and Human Services, Office of Inspector General
Case-Mix Systems: Patient Management Categories (January 1986)	Wanda Young, Blue Cross of Western Pennsylvania
Case-Mix Research (January 1986)	Peter Van Etten, New England Medical Center

PROSPECTIVE PAYMENT TERMS

The following terms are frequently referenced in discussions concerning the Medicare prospective payment system (PPS). Some of the definitions are from the September 1, 1983, *Federal Register* (FR), Volume 48, Number 171. The page number in the FR is listed in parentheses following the definition. Other definitions are from various Health Care Financing Administration (HCFA) publications and other sources. Where necessary, ProPAC has developed definitions consistent with its use of the terms in Commission documents.

Assignment Criteria.—The rules that determine how patients are classified into categories within a particular patient classification system. These criteria determine the selection of relevant classification variables and the method for combining these variables into patient categories. (ProPAC)

Budget Neutrality.—The legislative requirement that Medicare payment for total inpatient operating costs to hospitals under the prospective payment system during fiscal years 1984 and 1985 should be neither greater nor less than the estimate of what would have been paid under the law in effect (the Tax Equity and Fiscal Responsibility Act) prior to enactment of prospective payment. (ProPAC)

Capital.—Medicare capital payments generally relate to tangible fixed assets of a hospital, such as plant and equipment, which are of a relatively permanent nature and are intended for use in future periods. Most Medicare capital payments are for depreciation, interest, and return on equity. (ProPAC)

Case Complexity (Patient Complexity).—A measure of the mix of patient types and their resource use within a particular patient category. (ProPAC)

Case Mix.—The mix of patient types treated within a particular institutional setting, such as the hospital. Patient classification systems, such as the DRG system, can be used to measure hospital case mix. As a result, patient classification systems are also known as case-mix measures or case-mix systems. (ProPAC, revised)

Case-Mix Index (DRG Case-Mix Index).—A measure of the costliness of cases treated by a hospital relative to the cost of the national average of all Medicare hospital cases, using diagnosis-related group (DRG) weights as a measure of relative costliness of cases. (HCFA)

Charge.—The amount of money asked for by a seller in return for a product or a service. A hospital's charge is equivalent to its list price for a service. Medicare, Medicaid, Blue Cross, and some other payers, however, do not pay charges for inpatient hospital services. Thus, the "charge" is not the price from Medicare's or certain other payers' perspectives. (ProPAC, revised)

Children's Hospital.—A hospital whose inpatients are predominantly under 18 years of age and which has a Medicare provider agreement meeting applicable requirements. (FR 39758)

Claim.—A request to a third-party payer (e.g., private insurer, government payment program, employer payment program) by a person covered by the third-party program or an assignee (usually a provider of service) for payment of benefits covered by the third party. (ProPAC)

Classification.—The act or process of systematically arranging in groups or categories according to established criteria. Under PPS, patients are classified into disease categories using the ICD-9-CM classification system and then further grouped into diagnosis-related groups. (ProPAC)

Comorbidity.—A preexisting condition that will, because of its presence with a specific principal diagnosis, increase length of stay by at least one day in approximately 75 percent of cases. For the purposes of PPS, HCFA has defined a set of conditions which are considered comorbidities. (HCFA)

Complication.—A condition that arises during the hospital stay that prolongs length of stay by at least one day in approximately 75 percent of cases. For the purposes of PPS, HCFA has defined a list of conditions which are considered complications. (HCFA)

Cost.—The cost to the buyer is the amount of money or price paid by the buyer to acquire a good or service. The cost to the seller is the amount of money or price paid by the seller for the inputs used to produce a service or good. (ProPAC)

Cost-Based Reimbursement.—A method of paying for services based on the costs incurred by a provider to furnish those services. Under Medicare, cost-based reimbursement became associated with a detailed, rigid, and prescribed set of rules governing payment. (ProPAC)

Diagnosis-Related Groups (DRGs).—A system for determining case mix. Originally developed by researchers at Yale University, the DRG system index classifies patients into groups based on the International Classification of Diseases, the presence of a surgical procedure, patient age, presence or absence of significant comorbidities or complications, and other relevant criteria. The DRG classification attempts to categorize patients into clinically coherent and homogeneous groups with respect to resource use. PPS currently uses 468 mutually exclusive DRGs to classify patients and determine case mix. The first 467 DRGs and DRG 471 represent categories wherein the principal procedure is consistent with the principal diagnosis assigned to the patient. DRG 468 represents cases in which the principal procedure is unrelated to the valid principal diagnosis. DRG codes 469 and 470 may be assigned if the fiscal intermediary finds certain errors in bills submitted by hospitals. When this occurs, the bills are returned to the hospital for correction. DRGs 469 and 470 are not used as a basis of payment. (ProPAC)

Diagnosis-Related Group Weight.—A number which is intended to reflect the relative resource consumption associated with each DRG. That is, each DRG weight reflects the average cost across all hospitals of treating cases classified in that DRG compared to the average cost for all DRGs. For fiscal year 1986, the DRG weights range from 0.1137 for DRG 382 (false labor) to 7.5688 for DRG 457 (extensive burns). DRG 438 is no longer a valid DRG because of the reclassification of cases in DRGs 433-437. Because Medicare does not cover heart transplants, DRG 103 has not been assigned a weight. (ProPAC, revised)

Discharge.—A hospital inpatient is discharged when: (1) the patient is formally released from the hospital (except when transferred to another hospital under the prospective payment system—see Transfer); (2) the patient dies in the hospital; or (3) the patient is transferred to a hospital or unit that is excluded from the prospective payment system. (FR 39818)

Discretionary Adjustment Factor (DAF).—The quantitative expression of the Commission's judgment regarding the rate at which the Medicare standardized amounts should increase or decrease beyond inflation. This judgment reflects considerations outlined in the statute as well as other factors that the Commission has regarded as important. The Commission's fiscal year 1987 DAF recommendation for PPS hospitals includes allowances for four factors beyond inflation: (1) scientific and technological advancement; (2) hospital productivity change; (3) site-of-care substitution; (4) real case-mix change. These allowances represent broad guidelines used by the Commission to develop the DAF; they do not imply a high degree of precision or specificity in the estimation of the individual components. (ProPAC, revised)

Excluded Hospitals and Units.—Children's, long-term care (average length of stay over 25 days), rehabilitation, and psychiatric hospitals are specifically excluded from the prospective payment system. Rehabilitation or psychiatric "distinct part" subunits of acute care hospitals are exempted if they meet certain criteria as specified by the Secretary. Hospitals located in U.S. Territories (e.g., Puerto Rico), alcohol or drug abuse treatment hospitals or distinct alcohol or drug abuse treatment units of acute hospitals (until October 1, 1986), Federal hospitals, and Christian Science Sanatoria are also excluded. Cancer treatment and research facilities may receive an exemption if they meet criteria established by the Secretary. Excluded hospitals remain under cost-based reimbursement, subject to the TEFRA target rate of increase limits. (FR 39758; 50 FR 35669)

Exempt Hospitals and Units.—See Excluded Hospitals and Units.

Expenditure.—The amount of money paid for a good or service during a specified time period. The actual service or good could have been ac-

quired or used prior, during, or subsequent to the period in which the money is paid. (ProPAC)

Federal Prospective Payment Amount.—The portion of the total prospective payment rate derived from national and regional standardized prospective payment amounts. During the transition period of Medicare's prospective payment system, hospitals will be paid at a rate which is a blend of a Federal and hospital-specific portion (see Hospital-Specific Portion or Payment Amount). After the transition period, the payment rate will be entirely based on the Federal standardized payment amount. (ProPAC, revised)

Grouper.—Under PPS, a computer program used by the intermediary to assign discharges to the appropriate DRG using information abstracted from the inpatient bill. (ProPAC)

Heterogeneity.—The degree of dissimilarity among cases within a patient category (see Homogeneity). (ProPAC)

Homogeneity.—The degree of similarity among cases within a patient category. Homogeneity is an important criterion for developing and evaluating patient classification systems such as the DRG system. *Clinical homogeneity* indicates that patients have similar diagnoses or conditions. *Resource use homogeneity* indicates that patient treatments involve a similar amount of resources. *Distributional homogeneity* indicates that patients with high resource use within a particular category are evenly distributed across different types of hospitals. Homogeneity is often tested using statistical techniques, leading to the use of the term, *statistical homogeneity*. (ProPAC, revised)

Hospital Market Basket.—The set of goods and services purchased by hospitals. (ProPAC)

Hospital Market Basket (Input Price) Index.—A hospital market basket index is constructed by: (1) specifying the inputs that hospitals purchase and combining inputs into components; (2) determining a weight for each component that represents its share of total hospital expenses; and (3) identifying measures of price changes for each component. The overall change in the price of the market basket is computed by multiplying each component's price change by its weight and summing across all components. (ProPAC)

Hospital-Specific Portion or Payment Amount.—During the transition period of the prospective payment system, the portion of the Medicare prospective payment rate which is derived from each hospital's own cost experience. (ProPAC, revised)

Intermediary (Fiscal Intermediary).—An entity that has a contract with HCFA to determine and make Medicare payments for Part A or Part B benefits and to perform other related functions. (HCFA)

International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM).—A system for classifying diseases and procedures to facilitate collection of uniform and comparable health information. The disease classification is revised every ten years, and the ICD-9 is the ninth version. This system is the basis for grouping patients into DRGs. (HCFA)

Long-Term Care Hospital.—Those hospitals which have an average inpatient length of stay more than 25 days. (FR 39758)

Major Diagnostic Category (MDC).—Within the DRG Classification system, there are 23 MDC categories based on body system involvement and disease etiology. DRGs fit into one of the 23 MDCs. (ProPAC)

Market Basket.—See Hospital Market Basket.

Medical Technology.—The drugs, devices, and medical and surgical procedures used in medical care, and the organizational and supportive systems within which such care is provided. (OTA)

Medicare Cost Report (MCR).—An annual report required of all institutions participating in the Medicare program that records costs incurred by the institution for providing services to all patients. The costs are defined and reported according to highly specific categories as required by the Medicare program. The 1981 MCRs were used in the development of both the Federal standardized amounts and the DRG weights. (ProPAC, revised)

Medicare Provider Analysis and Review File (MEDPAR File).—A HCFA data file that contains billed charge data and clinical characteristics such as principal diagnosis and principal procedures for a 20 percent sample of inpatient bills submitted by hospitals. The 1981 MEDPAR file was used

to create the original DRG weights and to derive the case-mix data used in calculating the standardized portion of the prospective payment rates. (ProPAC, revised)

Morbidity.—A diseased state; often used in the context of a "morbidity rate," i.e., the rate of disease or proportion of diseased persons in a population. In common clinical usage, complications or comorbidities are referred to as morbidity. (ProPAC)

Non-Physician Services.—All services provided to inpatients by personnel other than physicians as defined by the Secretary. Non-physician services would include, for example, services of a physical therapist or radiology technician. (FR 39793)

Normalization.—A step in the recalibration process in which an adjustment factor is applied to the DRG weights so that the average weight of all PPS discharges is the same after recalibration as it was before recalibration. (ProPAC, revised)

Outliers.—Under the Medicare program, cases which have an extremely long length of stay (day outlier) or extraordinarily high costs (cost outlier) when compared to most discharges classified in the same DRG. (FR 39776)

Patient Bill File (PATBILL).—A HCFA data file which contains billed charge data and clinical characteristics such as principal diagnosis and principal procedures for all Medicare inpatient hospital bills. (ProPAC)

Patient Categories.—The groups to which cases are assigned within a particular patient classification system. Patient categories are typically designed to be understandable to the medical community as well as homogeneous with respect to resource use. (ProPAC)

Patient Classification System.—A set of patient categories, and the criteria for assigning cases to those categories, which allows cases to be classified into distinct groups. (ProPAC)

Payment.—The generic term for various types of monetary compensation for services received or goods acquired. Payment can be made before or after services are received or goods are acquired. (ProPAC)

Peer Review Organizations (PROs).—Successor organizations to Professional Standards Review Organizations (PSROs), which perform medical peer review of Medicare claims, including review of validity of hospital diagnosis and procedural information; completeness, adequacy, and quality of care; appropriateness of admission and discharge; and appropriateness of PPS outlier cases. A PRO is composed of (or has available to it) a substantial number of MDs or DOs to carry out the review. HCFA contracts for PRO review for all Medicare patients in a specified geographic area; in the absence of a PRO, the fiscal intermediary performs these reviews. (ProPAC)

Physician Services.—Medical services to individual patients are payable under Part B of Medicare if: (1) the services are personally furnished to an individual patient by a physician; (2) the services contribute directly to the diagnosis or treatment of an individual patient; (3) the services ordinarily require performance by a physician; and (4) if applicable, the services meet certain special rules that apply to services of certain physician specialties, i.e., anesthesiologists, radiologists, and pathologists. (FR 39794)

Price.—As generally used, the amount of money asked for by a seller in return for a good or service. In the Medicare PPS, the price for a hospital discharge is set by the buyer, the Medicare program. (ProPAC)

Principal Diagnosis.—That condition which after study is determined to be the reason chiefly responsible for occasioning the admission of the patient to the hospital. (FR 39761)

Principal Procedure.—The principal procedure is: (1) the one most related to the principal diagnosis; or (2) the one which was performed for definitive treatment rather than performed for diagnostic or exploratory purposes, or was necessary to treat a complication. If only one procedure is performed it is considered the principal procedure. (HCFA)

Prospective Payment (Pricing).—A method of paying for health care services in which: (1) full amounts or rates of payment are established in advance; and (2) providers are paid these amounts or rates regardless of the costs they actually incur. A distinction is sometimes made between

payment and pricing based on whether payment is made in advance for services or whether the price is simply set in advance. (ProPAC)

Psychiatric Hospital.—An institution that: (1) primarily engages in providing, by or under the supervision of a physician, psychiatric services for the diagnosis and treatment of mentally ill persons; (2) satisfies the statutory requirements of a "hospital"; (3) maintains clinical records on all patients such that the degree and intensity of the treatment provided can be readily discerned; (4) meets the special staff requirements for psychiatric hospitals; and (5) is accredited by the Joint Commission on Accreditation of Hospitals. (FR 39755)

Reasonable Charges.—Basis of payment under which Medicare Part B medical and other health services are paid. The reasonable charge is the lowest of the actual charge billed by the physician or supplier, the charge the physician or supplier customarily bills his patients for the same service, or the prevailing charge most physicians or suppliers in that locality bill for the same service. In the future, the term "approved charge" will replace the term "reasonable charge." (ProPAC, revised)

Reasonable Costs.—Medicare's determination of a provider's direct or indirect costs that are necessary and proper for the efficient delivery of needed health care services to Medicare beneficiaries. Historically, services to beneficiaries covered by Medicare Part A were reimbursed on the basis of reasonable cost. (ProPAC, revised)

Rebasing of PPS Standardized Amounts.—Development of new standardized amounts through the following process: recalculation using more recent data, updating to the payment year, and publication for payment purposes. (ProPAC, revised)

Rebundling of Hospital Payment.—Payment to hospitals for inpatient services which were formerly paid to other suppliers under separate billing. For Medicare, rebundling refers to payment to hospitals under Part A for non-physician services to hospital inpatients which were formerly (prior to PPS) paid to other suppliers under Part B. Including certain laboratory tests in the Part A payment that previously were billed separately under Part B is an example of rebundling. (ProPAC, revised)

Recalculation of Standardized Amounts.—Recomputation of the PPS standardized amounts using more recent cost data for use in rebasing or in determining the update factor. (ProPAC)

Recalibration.—The adjustment of all DRG weights to reflect changes in relative resource use associated with all existing DRG categories or the creation of new DRG categories or both. Recalibration is always accompanied by normalization. (ProPAC, revised)

Reclassification.—The creation, elimination, or modification of a limited set of DRG categories, including the reassignment of certain diagnostic or procedure codes from one DRG category to another. After reclassification, the resulting categories may need to be reweighted. (ProPAC, revised)

Rehabilitation Hospital.—A hospital which has a provider agreement with Medicare, treats an inpatient population of which at least 75 percent require intensive rehabilitative services for one or more of the conditions which are specified in regulation, and which meet other criteria specified by the Secretary in regulation. A rehabilitation hospital must provide active treatment in a number of therapeutic disciplines including physical and occupational therapy. (FR 39819)

Reimbursement.—To make repayment or pay back for expenses incurred. (ProPAC)

Restructuring.—A systematic modification of the DRG system using more recent data, additional clinical variables, or new assignment criteria. (ProPAC)

Reweighting.—The adjustment of only certain DRG weights to reflect changes in relative resource consumption. Reweighting can be done without reclassification. (ProPAC)

Site-of-Care Substitution (Component of the DAF).—The DAF component reflecting reductions in average inpatient resources per case due to a shift of services to non-inpatient settings for patients who would have otherwise received such services in an inpatient setting. This component reflects reductions attributable to shifting services

for patients who are admitted to the hospital. It does not reflect the impact of diverting entire admissions to out-of-hospital settings. (ProPAC)

Standardized Amounts.—The most important component used to arrive at the Federal payment per discharge for hospitals. To arrive at the payment for a discharge, the standardized amount is multiplied by a DRG weight and by wage and teaching adjustments. The standardized amounts are developed using each hospital's historic average costs per discharge. These costs are standardized for differences in area wage rates, hospital teaching status, and DRG case mix. They are also adjusted for outlier payments and updated for inflation. Currently, there are 20 standardized amounts—18 regional amounts (urban/rural amounts for each of nine census regions) and two national amounts (urban/rural). (ProPAC, revised)

Transfer.—For the purposes of PPS, a transfer is defined as the movement of a patient: (1) from one inpatient area or unit of the hospital to another area or unit of the hospital; (2) from the care of a hospital paid under prospective payment to the care of another such hospital; or, (3) from the care of a hospital under prospective payment to the care of a hospital in an approved statewide cost control program. (FR 39818)

Unbundling of Hospital Payment.—Separate payment to non-hospital suppliers for services provided to hospital inpatients. For Medicare, unbundling of hospital payment refers to the billing under Part B for non-physician services to hospital inpatients which are furnished to the hospital by an outside supplier or another provider. Except where a waiver has been granted by the Secretary, this form of unbundling is prohibited under PPS and all non-physician services provided in an inpatient setting must be paid as hospital services. (FR 39792-93)

Unbundling of Hospital Inpatient Services.—The provision of services on an outpatient basis which were formerly furnished to inpatients (e.g., performance of diagnostic studies prior to a patient's admission, or the provision of rehabilitation services after the patient's discharge). Alternatively, unbundling can be viewed as the provision of hospital services by lease or other administrative arrangement with other suppliers. Unbundling of inpatient hospital services is not prohibited by law. (ProPAC)

Uniform Hospital Discharge Data Set (UHDDS).—A defined set of data, developed from the Uniform Hospital Abstract Minimum Data Set, that gives a minimum description of a hospital episode or admission. The UHDDS includes data on the age, sex, race, and residence of the patient; length of stay; diagnosis; responsible physicians; procedures performed; disposition of the patient; and source of payment. The UHDDS was originally developed by the National Center for Health Statistics. Since 1974, the Department of Health and Human Services has used the UHDDS to assemble information on patients in the Medicare and Medicaid programs. (ProPAC, revised)

Update Factor (Rate of Increase Factor).—The percentage change applied to the previous year's payment rates which takes into account the amounts necessary for the efficient and effective delivery of medically appropriate and necessary care of high quality. The update factor is intended to reflect changes in the prices of goods and services purchased by hospitals, the hospital "market basket," as well as changes in hospital productivity, technological advances, quality of care, and long-term cost-effectiveness of services. (ProPAC, revised)

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